User's Manual

KODAK
Professional DCS 200
Digital Camera

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WARRANTY

KODAK Professional DCS 200 Digital Camera

THIS WARRANTY APPLIES TO EQUIPMENT PURCHASED IN THE
UNITED STATES.

Warranty Time Period

Kodak warrants your KODAK Professional DCS 200 Digital Camera to be
free from malfunctions and defects in both materials and workmanship for
12 months from the date of purchase.

Warranty Repair Coverage

If this equipment does not function properly during the warranty period,
due to defects in either materials or workmanship, Kodak will, at its
option, either repair or replace the equipment, without charge, subject to
the conditions and limitations stated herein. Such repair service will
include all labor as well as any necessary adjustments and/or replacement
parts.

If replacement parts are used in making repairs, these parts may be
remanufactured, or may contain remanufactured materials. If it is neces-
sary to replace the entire system, it may be replaced with a
remanufactured system. If it should become necessary to repair or replace
a malfunctioning or defective system, the provisions of this warranty shall
apply to the repaired or replaced system until the expiration of 90 days
from the date of return, or until the end of the original 12 month warranty
period, whichever is later.

Kodak will also provide telephone assistance during the warranty period.

Limitations

Warranty service will not be provided without return of the Warranty Registration card or dated proof of purchase. Please return the Warranty Registration card within 30 days of purchase.

As a condition of warranty service, before sending in your unit to the nearest service center for repair, you must first contact a Kodak representative for return authorization and instructions.

This warranty becomes null and void if, during shipment, you fail to pack your KODAK Professional DCS 200 Digital Camera in a manner consistent with the enclosed repacking instructions.

This warranty does not cover the following: circumstances beyond Kodak's control; service or parts to correct problems resulting from the use of attachments, accessories or alterations not marketed by Kodak; unauthorized modifications or service; misuse; abuse; failure to follow Kodak's operating, maintenance, or repacking instructions; or failure to use Kodak supplied items (such as cables).

This warranty does not cover the replacement of any batteries (nickel cadmium or alkaline).

KODAK MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Repair or replacement without charge is Kodak's only obligation under this warranty. Kodak will not be responsible for any consequential or incidental damages resulting from the purchase, use, or improper functioning of this equipment even if the loss or damage is caused by the negligence or other fault of Kodak. Such damages for which Kodak will not be responsible include, but are not limited to, loss of revenue or profit, downtime costs, loss of use of the equipment, cost of any substitute equipment, facilities, or services, or claims of your customers for such damages.

Outside the United States

In countries other than the United States, the terms of this warranty may be different. Unless a specific Kodak warranty is communicated to the purchaser in writing by a Kodak company, no other warranty or liability exists beyond the information contained above, even though defect, damage or loss may be by negligence or other act.

How to obtain service

In the United States, call the Kodak Information Center (KIC) at 1-800-242-2424, extension 77, between the hours of 8:00 a.m. and 8:00 p.m. (Eastern time) Monday through Friday.

In other countries, call your nearest Kodak representative.

If service is required, your Kodak representative will instruct you to return the unit to the nearest service center for repair and will issue a return authorization number.

When returning a KODAK Professional DCS 200 Digital Camera for repair, the unit shall be packed in its original packing materials according to the enclosed repacking instructions. The enclosed problem report form should also be completed and enclosed with the equipment. If the original packaging has been discarded or is not available, packing will be at the owner's expense. (NOTE: The Nikon camera body that is supplied as part of the KODAK Professional DCS 200 Digital Camera should be included in the return.)

Return of the repaired or replaced unit to the customer can be expected five to seven days from the date the KODAK Professional DCS 200 Digital Camera arrives at the service center.

EASTMAN KODAK COMPANY

Software License Agreement

YOU SHOULD CAREFULLY READ THE FOLLOWING TERMS AND CONDITIONS BEFORE OPENING THE DISKETTE PACKAGE(S). OPENING THE DISKETTE PACKAGE(S) INDICATES YOUR ACCEPTANCE OF THESE TERMS AND CONDI- TIONS. IF YOU DO NOT AGREE WITH THEM, YOU SHOULD PROMPTLY RE- TURN THE DISKETTE PACKAGE(S) UNOPENED, ALONG WITH THE ACCOMPA- NYING MATERIALS.

Eastman Kodak Company (Kodak) provides this software and licenses its use worldwide.

You assume responsibility for selection of the software to achieve your intended results, and for installation, use, and results obtained from the software.

LICENSE

You may:

a. use the software;

b. copy the software onto one or more computers only for the purpose of operating the equipment with which this software was provided (the "Related Equipment") or into any machine-readable form for backup purposes in support of your use of the software;

c. transfer the software and license to another party to whom you also transfer the Related Equipment, if the other party agrees to accept the terms and conditions of this Agreement. If you transfer the software, you must at the same time either transfer all copies to the same party or destroy any copies not transferred.

You must reproduce and include the copyright notice on any copy of the software.

YOU MAY NOT USE, COPY OR TRANSFER THE SOFTWARE, OR ANY COPY, IN WHOLE OR IN PART, EXCEPT AS EXPRESSLY PROVIDED FOR IN THIS LICENSE.

IF YOU TRANSFER POSSESSION OF THE RELATED EQUIPMENT OR ANY COPY OF THE SOFTWARE TO ANOTHER PARTY, YOUR LICENSE IS AUTOMATICALLY TERMINATED.

TERM

The license is effective until terminated. You may terminate it at any time by destroying the software together with all copies in any form. It will also terminate upon conditions set forth elsewhere in the Agreement or if you fail to comply with any term or condition of this Agreement. You agree upon such termination to destroy the software together with all copies in any form.

LIMITED WARRANTY

Kodak warrants the diskettes on which the software is furnished to be free from defects in materials and workmanship under normal use for a period of ninety (90) days from the date of delivery to you as evidenced by a copy of your receipt.

Kodak does not warrant that the functions contained in the software will meet your requirements or that the operation of the software will be uninterrupted or error free.

THE SOFTWARE IS PROVIDED 'AS IS' WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY

AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO QUALITY AND PERFORMANCE OF THE SOFTWARE IS WITH YOU. IF THE SOFTWARE PROVES DEFECTIVE, YOU (AND NOT KODAK OR YOUR DEALER) ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR, OR CORRECTION.

Some states do not allow the exclusion of implied warranties, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights that vary from state to state.

LIMITATIONS OF REMEDIES

Kodak's entire liability and your exclusive remedy shall be:

1. the replacement of any diskette not meeting Kodak's "Limited Warranty" that is returned to Kodak or your dealer with a copy of your receipt, or

2. if Kodak or the dealer is unable to deliver a replacement diskette that is free of defects in materials or workmanship, you may terminate this Agreement by returning the software.

IN NO EVENT WILL KODAK BE LIABLE TO YOU FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE SOFTWARE EVEN IF KODAK OR YOUR DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY.

Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

GENERAL

You may not sublicense, assign, or transfer the license or the software, except as expressly provided in this Agreement. Any attempt otherwise to sublicense, assign, or transfer any of the rights, duties, or obligations hereunder is prohibited.

This Agreement will be governed by the laws of the State of New York.

Should you have any questions concerning this Agreement, you may contact Kodak at 1-800-242-2424, extension 77.

YOU ACKNOWLEDGE THAT YOU HAVE READ THIS AGREEMENT, UNDERSTAND IT, AND AGREE TO BE BOUND BY ITS TERMS AND CONDITIONS. YOU FURTHER AGREE THAT IT IS THE COMPLETE AND EXCLUSIVE STATEMENT OF THE AGREEMENT BETWEEN US, WHICH SUPERSEDES ANY PROPOSAL OR PRIOR AGREEMENT, ORAL OR WRITTEN, AND ANY OTHER COMMUNICATIONS BETWEEN US RELATING TO THE SUBJECT MATTER OF THIS AGREEMENT.

Important Safeguards and Precautions

The exclamation point in an equilateral triangle is in-
tended to alert the user to the presence of important
operating and maintenance (servicing) instructions in
the literature accompanying the equipment.

▶ **Read Instructions** — Read all the safety and operating instructions
before operating the equipment.

▶ **Follow Instructions** — Follow all operating and use instructions.

▶ **Controls** — Adjust only those controls that are covered by the operat-
ing instructions.

▶ **Heed Warnings** — Heed all warnings on the equipment and in the
operating instructions.

▶ **Retain Instructions and Packaging** — Retain the safety and operating
instructions for future reference. Retain the packing case for use if the
equipment needs to be shipped.

▶ **Handling** — Handle the equipment as you would any valuable
camera. Handle the equipment with care, especially when the hard
disk is running. Treat the imager as you would your best lens. Do not
drop the equipment.

► **Accessories** — Do not place the equipment on an unstable cart, stand, bracket, or table. It can fall, causing serious injury to persons and serious damage to the equipment. Use only with a stable cart, stand, bracket, or table.

► **Cleaning** — Unplug the KODAK Professional DCS 200 Digital Camera (DCS 200 Camera) from its AC battery charger/adapter and from a computer and remove the batteries from the KODAK camera back before cleaning. Using a damp cloth, clean only the outside cabinet and the liquid crystal display (LCD) on the KODAK camera back. Do not use liquid cleaners or aerosol cleaners on the outside of the equipment. (Refer to "Cleaning the Imager" on page 6-55 for separate directions on cleaning the imager in the camera back.)

► **Dust** — If you operate the camera in environments with excessive dust levels, dust may accumulate on the imager in the camera back. (Refer to "Cleaning the Imager" on page 6-55 for separate directions on cleaning the imager in the camera back.)

► **CAUTION: Water and Moisture** — Do not use the AC battery charger/adapter near water — for example, near a sink, or in a wet room or basement. Do not use the equipment in heavy rain and do not immerse the equipment in water or other liquids.

► **Object or Liquid Entry** — Never push foreign objects of any kind into the equipment openings. The objects could touch dangerous voltage points or short out parts and cause a fire or electric shock. Never spill liquid of any kind on the equipment.

► **Attachments** — Do not use attachments that are not recommended. The use of such attachments may cause hazards and serious damage to the equipment.

► **Power Sources** — You should operate the equipment only from the type of power source indicated on the name plate of the AC battery charger/adapter. If you are not sure of the type of AC power that will

be used, consult a dealer or local power company. Be certain the switch on the bottom of the AC battery charger/adapter is set to match the available power source.

▶ **Overloading** — Do not overload power outlets and extension cords; this can result in a risk of fire or electric shock.

▶ **Cables** — Do not use cables other than those supplied with the DCS 200 Camera, except that the Nikon remote release cord is recommended and an additional cable is required if you will use the DCS 200 Camera as the only external device attached to a Macintosh IIfx or PowerBook computer (refer to "Making the SCSI Connection" on page 4-9). Use only the SCSI cables supplied with DCS 200 Camera to attach the camera or other peripherals to the computer. If you use other cables, you may violate FCC emission requirements and could corrupt data on the hard disk.

▶ **Power-Cord Protection** — Route power-supply, and other cords, so that you are not likely to walk on them or pinch them with items placed on or against them; pay particular attention to cords at plugs, receptacles, and the point where they leave the equipment.

▶ **Grounding** — The AC battery charger/adapter is equipped with a three-wire grounding-type plug with a third (grounding) pin. The three-wire plug will fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.

▶ **Lightning** — For added protection for the equipment during a lightning storm, or any time when you will leave the equipment unattended and unused for long periods of time, unplug the AC battery charger/adapter from the power outlet. This will protect the equipment from damage caused by lightning or power-line surges.

► **Temperature, Humidity, Condensation** — We do not recommend operating the equipment below 40° F or above 130° F (4° to 54° C). We recommend operating the equipment within the range of 8% to 85% relative humidity with a maximum wet bulb of 79° F (26° C). If condensation occurs, added time may be required to read from or write to an internal hard disk. Condensation may be present if the camera is moved from a relatively cold environment (like an air conditioned hotel room), into a warm, humid environment. We recommend that you allow sufficient time for the camera to normalize within the specified environmental ranges before operation.

► **Servicing** — Do not attempt to service the equipment yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Never open the KODAK camera back. (Refer to "Maintenance" on page 6-48 for directions on separating the KODAK camera back from the Nikon N8008s Camera to replace camera batteries or to clean a dirty imager.)

► **Damage Requiring Service** — Unplug the equipment from the wall outlet and computer, and refer all servicing to the manufacturer under the following conditions:

- When any cord or plug is damaged (send cord only).
- If liquid has been spilled or if objects have fallen in the equipment.
- If the equipment has been exposed to rain or water.
- If the equipment does not operate normally according to the operating instructions.
- If the equipment has been dropped or the housing has been damaged.
- When the equipment exhibits a distinct change in performance.

► **Connection to Computer** — Do not separate the camera back from the DCS 200 Camera and then connect the camera back to your computer; instead, the camera and camera back should be attached to

each other when connected to your computer. If an external hard disk is in use, disconnect it from the DCS 200 Camera before connecting either the external hard disk or the DCS 200 Camera to your computer.

CAUTION: To prevent fire or shock hazard, use only the recommended accessories or attachments.

Batteries — Important Warnings

▶ Use only nickel cadmium (NiCad) batteries in the KODAK camera back. We recommend you obtain an extra set of batteries. (Refer to "Extra Batteries" on page 1-11 for battery recommendations.)

NOTE: In an emergency you can use six matching non-rechargeable alkaline batteries in the KODAK camera back, although their life will be shorter (30-40 images) than charged NiCad batteries (100-200 images).

WARNING: You must *not* attempt to recharge alkaline batteries. Do *not* use the AC battery charger/adapter while alkaline batteries are in the KODAK camera back. Recharging alkaline batteries or using them in the camera back when the AC battery charger/adapter is in use can result in battery leakage or explosion. **Damage resulting from this misuse will not be covered by the warranty and will void the warranty.**

▶ Insert batteries in the equipment only as specified on the battery holders. Position the ends of the batteries only as shown on the battery holders.

▶ Do not use mixed sets of batteries from different manufacturers or from different model numbers of the same manufacturer. Instead, all batteries in the KODAK camera back at the same time should be from the same manufacturer and all should be the same model number from that manufacturer.

▶ All batteries in use in the KODAK camera back at the same time should be at the same charge level; that is, do not use a set of batteries in which some batteries are fully charged, while others are partially charged.

▶ Before using the camera system for the first time, you must charge the batteries shipped in the KODAK camera back. If you will be operating the camera without the AC battery charger/adapter, this may take up to eight hours. If you will be operating the camera while it is con- nected to the AC battery charger/adapter you will need to charge the batteries with the camera off for at least five minutes. (Refer to "Charg- ing Batteries and Using the AC Battery Charger/Adapter" on page 3-3 for directions.)

▶ Never attempt to charge alkaline batteries, or other non-rechargeable batteries; serious damage or injury can result.

▶ Observe all cautions printed on the batteries or on the battery packag- ing.

▶ Do not drop the batteries.

▶ Do not use the supplied batteries for other than the specified equip- ment.

▶ Do not directly connect the negative and positive terminals of a battery.

▶ Do not carry a loose battery or batteries, or a loaded battery holder, in a pocket, purse, or similar container. Loose metal objects, such as coins or keys, may short out the batteries, resulting in the venting of caustic materials.

▶ Do not incinerate the batteries.

▶ Use batteries only in their specified temperature ranges.

AC Battery Charger/Adapter — Important Warnings

▶ Be sure that you set the line voltage on the AC battery charger/adapter to match the available line voltage as described in "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3. *An improper setting can destroy the AC battery charger/adapter and/or the camera.*

▶ Use only the supplied AC battery charger/adapter; do not plug other chargers or adapters into the DCS 200 Camera.

▶ The AC battery charger/adapter is for indoor use only.

▶ Do not use the supplied AC battery charger/adapter for any purpose other than for the DCS 200 Camera.

▶ Do not plug the AC battery charger/adapter into any equipment other than the DCS 200 Camera.

▶ Do not plug the AC battery charger/adapter into the DCS 200 Camera unless the specified NiCad rechargeable batteries are installed in the camera back. Never plug the AC battery charger/adapter into the DCS 200 Camera when no batteries, or when non-rechargeable batteries, are installed in the camera back.

▶ Use the AC battery charger/adapter only with rechargeable batteries.

▶ If the rechargeable batteries in the KODAK camera back become hot during charging, you may have a bad battery; discontinue charging and replace all rechargeable batteries.

Electromagnetic Emissions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

► Reorient or relocate the receiving antenna.

► Increase the separation between the equipment and receiver.

► Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

► Consult the dealer or an experienced radio/TV technician for help.

This equipment conforms with the requirements of European Standard EN55022 with respect to radio interference for a Class B device.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le réglement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

This digital apparatus does not exceed the class B limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Technical Assistance

Refer to the following sources for assistance if you have questions as you work with the KODAK Professional DCS 200 Digital Camera.

Technical Assistance Needed	Source of Assistance
You encounter difficulties with hardware, images, or product performance.	The three troubleshooting sections of this manual: camera — page 6-36, Photoshop driver — page 7-39, PhotoStyler driver — page 8-32
The liquid crystal display (LCD) on the KODAK camera back shows information you do not understand.	Refer to "Liquid Crystal Display (LCD)" on page 6-4.
You need assistance with the Nikon N8008s camera.	Instruction manual supplied by Kodak for that camera.
A message appears on the computer screen that you do not understand when using one of the supplied software drivers.	The two messages sections of this manual: Photoshop driver — page 7-25, PhotoStyler driver — page 8-22.
You encounter difficulty with the DCS 200 Camera.	Perform the self-test and update the camera firmware. (Refer to the "Control Panel" sections for either the Macintosh on page 7-15 or PC on page 8-14 in this manual.)

Technical Assistance Needed	Source of Assistance
You need other assistance.	Contents and index in this manual.
You are a customer in the United States and you are unable to find answers to your questions using this manual.	Call Kodak between 8:00 a.m. and 8:00 p.m. (eastern time zone), Monday through Friday, at 1-800-242-2424, extension 77.
You are a customer outside the United States and you are unable to find answers to your questions using this manual.	Contact your local Kodak service representative.

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Before You Begin

NOTE: Before you continue, complete and submit the enclosed Warranty Registration card. You should also read the Warranty and the Software License Agreement at the front of this manual.

Check the following lists to ensure that you have the required and optional computer hardware and software, and camera accessories, to use the KODAK Professional DCS 200 Digital Camera (DCS 200 Camera).

The KODAK Professional DCS 200 Digital Camera can be used with a Macintosh computer and/or with an IBM PC or compatible computer. Separate specifications for both are included on the following pages.

NOTE: You may be able to use the camera on other computer platforms, or with additional operating systems, using drivers prepared by companies other than Kodak, or by developing your own driver. Contact Kodak for information.

DCS 200 Camera Models

Five camera models are available: DCS 200ci (color camera, 50-image internal hard disk), DCS 200c (color camera, single-image storage), DCS 200mi (monochrome camera, 50-image internal hard disk), DCS 200m (monochrome camera, single-image storage) and DCS 200IR (infrared monochrome camera, 50-image internal hard disk).

Macintosh Computer — Hardware and Software

The following sections list the required and optional computer hardware and software needed to run the Kodak Driver for use with Adobe Photoshop Software. The requirements are accurate at the time the manual was prepared.

Required Computer Hardware

Apple Macintosh II, LC, PowerBook (except for the model 100), Performa, and Quadra computer product lines that support 32-Bit QuickDraw, with at least 6 megabytes (MB) of random access memory (RAM). We strongly recommend a minimum of 8 MB of RAM for faster acquisition of an image from the DCS 200 Camera to the computer.

Hard disk, 40 megabyte (MB) minimum. We recommend 80 MB or greater. Adobe Photoshop requires three to five times the size of the file in combined hard disk space and RAM. DCS 200 color images are approximately 4.5 MB and monochrome images are approximately 1.5 MB; respectively, you should have roughly 15-25 MB (RAM plus free hard disk) when acquiring a color image and roughly 5-7 MB (RAM plus free hard disk) when acquiring a monochrome image.

IMPORTANT: Use only the supplied cables; do not use substitute cables, except that an additional cable is required if you will use the DCS 200 Camera as the only external device attached to a Macintosh IIfx or PowerBook computer. (If you are using a Macintosh IIfx or PowerBook computer, refer to "Making the SCSI Connection" on page 4-9 for the Macintosh computer.)

Required Monitor and Display Card

A color monitor is required for color work. Your monitor should be at least 12 inches or larger; the monitor on a PowerBook is also acceptable. You need the appropriate display card for the monitor in use; we recommend an 8-bit or 24-bit video display card. An 8-bit card can display 256 colors, while a 24-bit card can display more than 16.7 million colors. (Neither the amount of data stored for each image, nor the quality of any printed output, is affected by the monitor or card in use.) If you do not have a 24-bit display card, the software automatically dithers the display data to achieve the best looking image.

Required Systems Software

Apple System software V 6.0.7 or later, and 32-Bit QuickDraw software. (If you are using System 7.0 or System 7.0.1 you should use the System Tuner version 1.1.1 or later, or consider upgrading to System 7.1.)

Required Applications Software

Adobe Photoshop, 1.0.7 (or higher).

Optional External Hard Disk

External Drive Power Supply and Terminator Accessory; CAT No. 834 3790. This accessory is used to connect the external hard disk to your Macintosh computer. For specific requirement information, refer to details provided in the tabbed section "Using an external hard disk."

SCSI Terminators

Appropriate SCSI terminator(s), as required for your computer system.

Optional Printers

KODAK XL 7700/XLT 7720 Digital Continuous Tone Printer — with output sizes 8.5 x 11-inch (21.6 x 27.9-cm) or 11 x 11-inch (27.9 x 27.9-cm). Prints black and white or color reflective prints and transparencies.

KODAK 450GL Digital Color Printer. Produces reflective prints on 3.9 x 5.5-inch (9.9 x 14.0-cm) paper.

KODAK XLS 8300 Digital Printer. Prints 300 dot-per-inch, 24-bit color or eight-bit gray scale images up to 8.5 x 10-inches (21.6 x 25.4-cm) to Kodak Ektatherm print paper or transparencies.

KODAK ColorEase PS Printer. Prints 300 dot-per-inch, 24-bit color or eight-bit gray scale images to lettersize or A4 coated paper or transparencies.

NOTE: In the United States, contact Kodak at 1-800-242-2424, extension 77 for detailed information on printer options and accessories and to obtain ordering catalog numbers; outside the United States contact your local Kodak representative.

IBM PC or Compatible Computer — Hardware and Software

The following sections list the required and optional computer hardware and software needed to run the Kodak Driver for use with Aldus Photo-Styler Software. The requirements are accurate at the time the manual was prepared.

Required Computer Hardware

Any 80286, 80386, 80386sx, 80486, or 80486sx computer with a minimum of 4 megabytes (MB) of random access memory (RAM) that can operate Microsoft Windows 3.0 or 3.1. We strongly recommend an 80486 or 80486sx computer with a minimum of 8 MB of RAM running Windows in Standard Mode for faster acquisition of an image from the DCS 200 Camera to the computer. PhotoStyler operates fastest if there is enough RAM to hold the entire image. DCS 200 color images are approximately 4.5 MB and monochrome images are approximately 1.5 MB.

Hard disk, 40 megabyte (MB) minimum. We recommend 80 MB or greater. For fastest performance we recommend at least 20 MB of free space on your hard disk.

Required Monitor and Display Card

A color monitor is required for color work. VGA or compatible display. You need the appropriate display card for the monitor in use; we recommend a 16-bit or 24-bit display card. A 16-bit card can display up to 32,768 colors, while a 24-bit card can display more than 16.7 million colors. (Neither the amount of data stored for each image, nor the quality of any printed output, is affected by the monitor or card in use.) If you do not have a 24-bit display card, the software automatically dithers the display data to achieve the best looking image.

Required SCSI Interface

SCSI Host Adapter for PCs with AT-style bus, Kodak CAT No. 838 0917 (Future Domain No. TMC-1660), or SCSI Host Adapter for PCs with Micro Channel-style bus, Kodak CAT No. 835 4763 (Future Domain No. MCS-700).

NOTE: These Future Domain adapters are the only SCSI host adapters that can be used with the software provided with this camera system.

SCSI terminators are not supplied with the DCS 200 Camera. If other external SCSI devices are connected to your computer, you may need to obtain a SCSI terminator depending on the termination of devices in the SCSI chain.

Required Systems Software

Microsoft Windows, version 3.0 or 3.1.

Required Applications Software

Aldus PhotoStyler 1.1A (or higher).

Optional External Hard Disk

External Drive Power Supply and Terminator Accessory; CAT No. 834 3790. This accessory is used to connect the external hard disk to your computer. For specific requirement information, refer to details provided in the tabbed section "Using an external hard disk."

Optional Printers

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KODAK ColorEase PS Printer. Prints 300 dot-per-inch, 24-bit color or eight-bit gray scale images to lettersize or A4 coated paper or transparencies.

NOTE: In the United States, contact Kodak at 1-800-242-2424, extension 77 for detailed information on printer options and accessories and to obtain ordering catalog numbers; outside the United States contact your local Kodak representative.

Optional Camera Equipment

KODAK Color Filter Wheel Accessory; CAT No. 130 2447. (For use only with monochrome camera backs with internal hard disks and only with Macintosh computers.) This accessory consists of a motor-driven red, green, and blue filter wheel with support electronics that enables the DCS 200mi monochrome camera to produce high-quality color images. Sequential red, green, and blue exposures are combined to produce a full 24-bit color image. This accessory cannot be used simultaneously with an external hard disk. We recommend the use of a QB2 (see next paragraph) when using this accessory.

KODAK Professional DCS 200 External Battery Adapter; CAT No. 893 0893. This accessory is a replacement for the nickel cadmium battery clip in the KODAK camera back. This accessory allows the system to be used with the Quantum Battery 2 (QB2). The QB2 is a rechargeable, external power pack that extends operating time for the DCS 200 Camera. The QB2 should not be used to provide power to an electronic flash, because a low battery condition may occur when the flash is discharged. For information on the QB2, contact Quantum Instruments Inc., 1075 Stewart Avenue, Garden City, NY 11530, 516-222-0611.

Schott 1 mm BG-40 filter. Improves color fidelity under tungsten lighting. (For usage information, refer to "Balance" on page 7-8 for the Kodak Driver for Adobe Photoshop Software and to "Balance" on page 8-7 for the Kodak Driver for Aldus PhotoStyler Software.) The filter is available from Schott Glass Technologies Inc., 400 York Avenue, Duryea, PA 18642, 717-457-7485. These filters must be cut for screw mount holders; Tiffen Manufacturing Corporation, at 90 Oser Avenue, Hauppauge, New York, 11788, 516-273-2500, can cut and mount these filters in any lens mount you specify.

Pelican Pro Case 1550. A hard shipping case for the DCS 200 Camera. Available from Bristol Case Company, 34 Elton Street, Rochester, NY 14607, 1-800-343-3408.

Focusing screens. Custom focusing screens for the Nikon N8008s camera can be produced by Maracle Industrial Finishing Company, Inc., 39 Commercial Street, Webster, NY 14580, telephone 716-872-5100, fax 716-872-0285.

Electronic flash and accessories.

Extra lenses for the Nikon N8008s camera. (Refer to "Using the Nikon N8008s Camera" on page 3-37 for an explanation of how standard lenses behave when used as part of the DCS 200 Camera.)

Close-up accessories.

Nikon remote control accessories.

Finder accessories.

Extra Batteries

KODAK Camera Back

NOTE: This section provides information on batteries for the KODAK camera back; batteries for the Nikon N8008s are described in the next section.

We recommend that you obtain at least one set of six extra rechargeable nickel cadmium batteries for the KODAK camera back. We recommend Sanyo Cadnica N-600AA, 1.2v, 600mAh.

You can use other brands of AA-type rechargeable nickel cadmium batteries; these other batteries may vary in capacity, with perhaps 15% less capacity. However, do not use less than 600 mAh batteries. You can use batteries with greater than 600 mAh, such as 850 mAh AA-type rechargeable nickel cadmium batteries (for example those available from Radio Shack); they will provide greater capacity. (Observe all cautions regarding battery usage listed in "Important Safeguards and Precautions" on page x.)

IMPORTANT: Before using your DCS 200 Camera for the first time, charge the batteries shipped in the KODAK camera back. (Refer to "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3 for an explanation.)

Nikon N8008s Camera

NOTES: This section provides information on batteries for the Nikon N8008s camera; batteries for the KODAK camera back are described in the previous section.

The Nikon N8008s camera is called the Nikon F-801s in some parts of the world.

We recommend that you obtain at least one set of four extra batteries for the Nikon N8008s camera. You can use two different types of batteries in the Nikon N8008s camera:

► Four AA-type alkaline batteries. (Do not recharge these batteries. Do not use these batteries in the KODAK camera back.)

► Four AA-type NiCad batteries (instead of alkaline batteries), if the "+" terminal does not exceed 6 mm in diameter.

(Selecting NiCad batteries instead of alkaline batteries for the camera means you can stock the same NiCad batteries for both the KODAK camera back and the Nikon N8008s camera. However, the Sanyo batteries recommended for the camera back have terminals that exceed 6 mm in diameter; therefore, if you want to use the same batteries in the camera as in the camera back, select other NiCad batteries that meet this specification.)

Battery Charger

Rechargeable battery charger capable of simultaneously recharging a minimum of six AA-type rechargeable NiCad batteries. Sanyo, or other high capacity batteries, will typically require ten hours to charge even though the charger instructions may state that only six to seven hours are needed. Panasonic, Eveready, and others offer readily available battery chargers. These battery chargers are not offered by Kodak.

2

Introduction

This chapter includes:

► A brief introduction to the design of the KODAK Professional DCS 200 Digital Camera and the KODAK camera back.

► An overview of the product features.

The KODAK Professional DCS 200 Digital Camera (DCS 200 Camera) is a portable camera system that takes and stores high-resolution digital images. You can attach the DCS 200 Camera to one of several computers and move your images from the camera to the computer using one of the special software drivers provided by Kodak. You can then use the image in other applications or edit it with your image editing software.

DCS 200 CAMERA
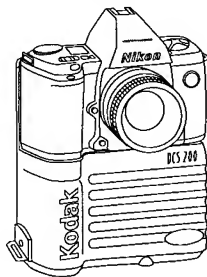
KODAK Camera Back

The KODAK camera back is a sealed, one-piece unit. A single mounting screw attaches it to an unmodified Nikon N8008s (also called a Nikon F-801s in some parts of the world) camera body that has had its film back removed.

NIKON N8008s CAMERA
(with film back removed)

KODAK CAMERA BACK

Mounting screw
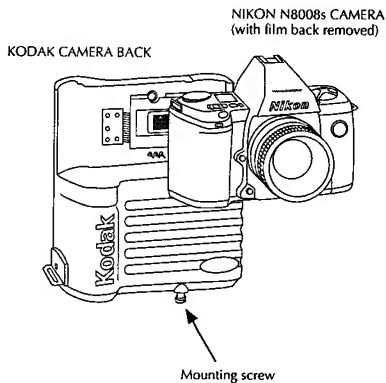
Features

The KODAK camera back incorporates the following features:

FRONT VIEW
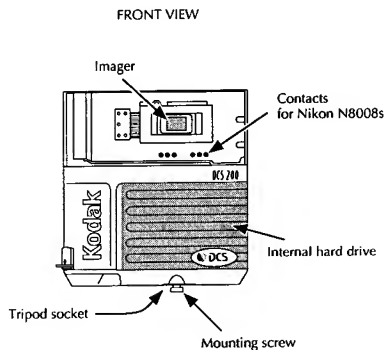
- ▶ A KODAK charge coupled device (CCD) imager available in a color and a monochrome model. When you take a picture, the imager records data on a 1524 x 1012-pixel matrix, resulting in images composed of 1.5 megapixels of data.
- ▶ Four exposure indexes equivalent to film speeds of ISO 50, 100, 200, and 400 in color or ISO 100, 200, 400, and 800 in black and white.
- ▶ A two megabyte (MB) single-image dynamic random access memory (DRAM) that holds the current image.
- ▶ A single mounting screw that rigidly mates the camera back to the camera.
- ▶ A tripod socket.

► An optional 80 megabyte (MB) internal hard disk that holds 50 images. An optional third-party external hard disk is available in several different storage capacities.

BACK VIEW
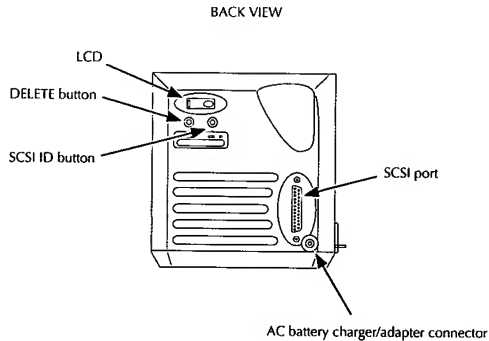
► A liquid crystal display (LCD) that shows status and control information.

► A SCSI port to connect the DCS 200 Camera to your computer for moving images from the camera to your computer.

► Two controls — one sets the camera back SCSI ID; the other deletes the last image from the hard disk.

► Software drivers to move images from the camera back to your computer. You can also use the drivers to perform self-tests on the DCS 200 Camera from your computer, and to load new firmware into the DCS 200 Camera. This last function allows you to keep the firmware in the camera up-to-date without sending the camera to a service center.

The DCS 200 Camera can operate from batteries alone, making the system portable, and flexible. The KODAK camera back operates from six AA-type rechargeable nickel cadmium batteries. The Nikon N8008s camera operates from four separate AA-type alkaline batteries (or from four AA-type NiCad batteries whose "+" terminals do not exceed 6 mm in diameter). The DCS 200 Camera, with batteries installed in the camera and in the camera back, can also operate from an AC battery charger/adapter supplied by Kodak. Important information about batteries — and battery life — appear in "Important Notes About Batteries" on page 3-8, and in "Batteries" on page 6-25.

You can take pictures while the camera is connected to a computer. The images are then immediately available on the computer.

3

Using the DCS 200 Camera

This section describes how to charge the batteries in the camera back and use the AC battery charger/adapter, and then describes how to use the KODAK Professional DCS 200 Digital Camera (DCS 200 Camera) in three different situations:

▶ With an internal hard disk.
▶ With an external hard disk.
▶ Without a hard disk.

NOTE: In addition to these three modes, you can also operate the DCS 200 Camera while connected to a computer. (Refer to the tabbed sections "Using with the Macintosh" and "Using with the PC" for an explanation.)

Introduction

As you follow the steps in this section, the pictures you take are stored on the internal hard disk in the DCS 200 Camera, on an optional external hard disk, or in single-image dynamic random access memory (if you are working with a camera model without a hard disk). Later you can follow steps in the tabbed sections "Using with the Macintosh" or "Using the with the PC" to move those images from the DCS 200 Camera to a computer.

This section assumes that you have unpacked the camera; when you do, retain the packing materials for future use. (Refer to the "Warranty" on page iii and Appendix D "Repackaging Instructions for the KODAK Professional DCS 200 Digital Camera" to review your obligation to use the original shipping carton and packing material when shipping the camera.)

We also assume that the KODAK camera back and Nikon N8008s camera are connected and have batteries installed; the camera is shipped in this state. We also assume that you have mounted a lens. (Refer to "Using the Nikon N8008s Camera" on page 3-37 for a description of the behavior of lenses used with the DCS 200 Camera.)

NOTES: Do not separate the KODAK camera back and the Nikon N8008s camera, except as described in "Maintenance" on page 6-48.

Documents in addition to this user's manual are shipped with this product; please read them now.

Charging Batteries and Using the AC Battery Charger/Adapter

Before using the camera system for the first time, charge the batteries shipped in the KODAK camera back. This is necessary since the NiCad rechargeable batteries shipped with the camera are not fully charged.

Most problems with the DCS 200 Camera are caused by exhausted batteries. We strongly recommend that you begin each shooting session with fully charged batteries. We recommend that if you are using the camera in an environment in which a power outlet is available, that you operate the camera, with the batteries in place in the camera and in the camera back, while connected to the AC battery charger/adapter as described in this section.

IMPORTANT: Observe all cautions regarding batteries and the AC battery charger/adapter included in the "Important Safeguards and Precautions" at the front of this manual on page x.

Follow these steps to charge the batteries in the camera back.

1. Locate the AC battery charger/adapter and power cord supplied by Kodak.

AC BATTERY CHARGER/ADAPTER

To camera

POWER CORD

To AC battery charger/adapter

To wall outlet
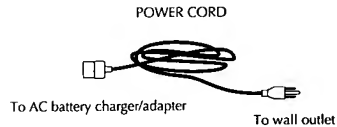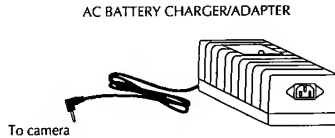
2. Set the line voltage (115V or 230V) with the switch on the bottom of the AC battery charger/adapter to match the available line voltage. For example, in the United States, set the line voltage switch to the 115V setting.

CAUTION: An improper setting can destroy the unit. The 115V setting covers 90-120V and the 230V setting covers 220V-240V.

The unit is set to 230V when shipped. We have done this to protect against accidental destruction of the camera or the AC battery charger/ adapter. If the AC battery charger/adapter is set at 230V and available line voltage is 120V the camera will not work, but will not be harmed. However, in the reverse situation (the AC battery charger/adapter is set at 115V but the line voltage is 240V), the camera and/or the AC battery charger/adapter will be destroyed.

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3. Plug the appropriate end of the power cord into the AC battery charger/adapter.

4. Plug the other end of the power cord into a wall outlet.

5. Plug the AC battery charger/adapter into the DCS 200 Camera. When the light on the top of the AC battery charger/adapter goes on, the system is ready for use.

    NOTES: When using low or dead batteries, it may take a minute for the light to turn on while the batteries charge.

    A slight flicker in the light is not unusual; but, if the light tends to stay off when operating the camera, stop taking pictures for a few minutes to allow the batteries to charge.

Light
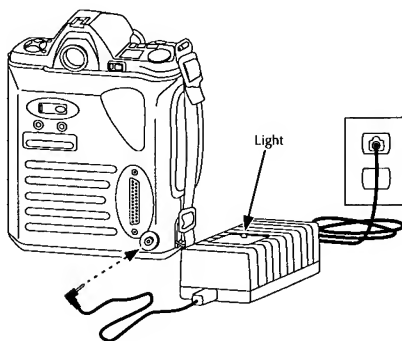
6. Select either step A or B below depending on the environment in which you will use the camera.

A. If you are using the camera in a stand-alone mode (for example outdoors), with the camera off, wait at least eight hours for the batteries in the KODAK camera back to charge fully. This will ensure that the batteries, if completely discharged, receive a full charge. Unplug the AC battery charger/adapter from the wall and from the camera. The camera will operate from its batteries.

NOTE: Most of the charge occurs during the first hour that the DCS 200 Camera is connected to the AC battery charger/adapter. For that reason, you can try the camera after one hour if the additional hours that will ensure a full charge are not available.

B. If you are using the camera in a studio or other indoor environment in which a power outlet is available, operate the camera, with batteries in place, while connected to the AC battery charger/ adapter. However, if connected when weak or dead batteries are in place in the camera back, do not turn on the camera for at least five minutes; this will allow the batteries to obtain a charge that is sufficient to prevent a brief power loss should one occur.

WARNING: The recommended rechargeable NiCad batteries should be in the camera back when you are operating from the AC battery charger/adapter. Do *not* use the AC battery charger/adapter while alkaline batteries are in the camera back. Recharging alkaline batteries or using them in the camera back when the AC battery charger/adapter is in use can result in battery leakage or explosion. **Damage resulting from this misuse will not be covered by the warranty and will void the warranty.**

Read and follow all directions and cautions regarding batteries in "Important Safeguards and Precautions" on page x.

The camera system is now ready to take pictures.

Important Notes About Batteries

The DCS 200 operates on two sets of batteries, one set of four alkaline
batteries in the Nikon camera, and another set of six nickel cadmium
batteries in the KODAK camera back. These batteries operate separately
— that is, the camera batteries do not provide any power to the camera
back, and the camera back batteries do not provide any power to the
camera. If you use the AC battery charger/adapter it provides power to
and charges only the rechargeable batteries in the camera back; it has no
effect on the batteries in the Nikon camera.

Most problems with the DCS 200 Camera are caused by exhausted
batteries. Both sets of batteries must be in place and must have power for
the camera system to operate. We strongly recommend that you begin
each shooting session with fully charged batteries.

Nikon camera
battery chamber

KODAK camera back
battery chamber
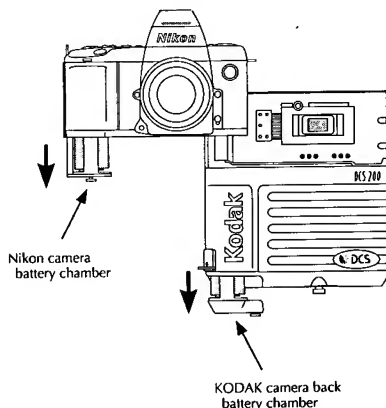
If the DCS 200 does not operate, or does not operate properly, there is a
good possibility that it is a battery problem. This manual provides the
following important information about batteries.

▶ The previous section of this manual, on page 3-3, describes how to
use the AC battery charger/adapter.

▶ "Maintenance" on page 6-48 describes how to change the batteries in
the Nikon camera (as well as in the camera back).

▶ "Troubleshooting the DCS 200 Camera" on page 6-36 provides
additional details on problems associated with weak or exhausted
batteries.

Using the DCS 200 Camera with an Internal Hard Disk

IMPORTANT: If the camera does not react as described below, refer to "Trouble-shooting the DCS 200 Camera" on page 6-36. Additionally, ensure that batteries are installed properly, and are not exhausted. The instruction manual for the Nikon N8008s camera describes how to check battery power on the camera. Refer to "Changing Batteries in the Nikon N8008s Camera" on page 6-51 for instructions on how to replace the batteries in the camera. (The Nikon N8008s camera is also called the Nikon F-801s camera in some parts of the world.)

Readying the DCS 200 Camera

1. Turn on the Nikon camera by sliding the power switch to ON. The camera liquid crystal display (LCD) panel displays a variety of current settings. An example is shown below:

Power switch set to ON

Film-advance mode   LCD panel
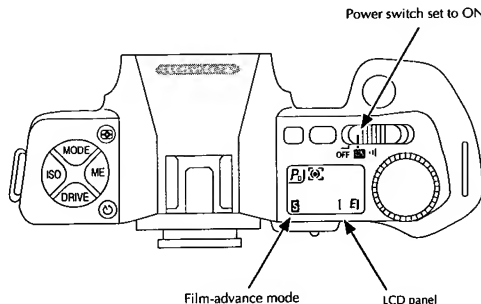
There is no on/off switch on the KODAK camera back; instead the camera on/off switch also turns the camera back on and off.

2. If the film-advance mode is not set to "S," for single-frame shooting, change it to "S" now by holding down the DRIVE section of the film-advance mode button while rotating the command input control dial until "S" is selected.

   IMPORTANT: The DCS 200 Camera operates correctly only in single-frame film-advance mode.

Indicates single-frame shooting.

Film-advance mode button

Command input control dial
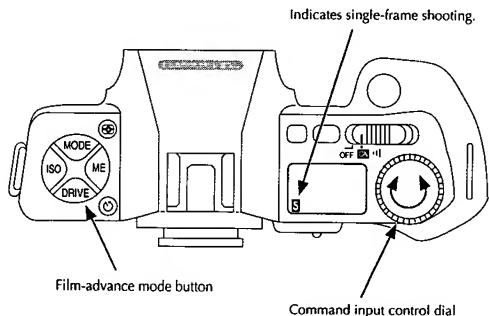
NOTES: If either the CL or CH film modes are selected, later when you take pictures, the camera will continuously take pictures although only the first shot will be recorded.

As a reminder of the appropriate setting, the letter "S" appears on the label beneath the LCD on the camera back.

▶ Using the DCS 200 Camera ◄ 3-11

3. If the meter mode is not set to center-weighted metering, change it now by holding the metering system selection button while rotating the command input control dial until the symbol for center-weighted metering is selected.

Indicates center-weighted metering

Metering system selection button

Command input control dial
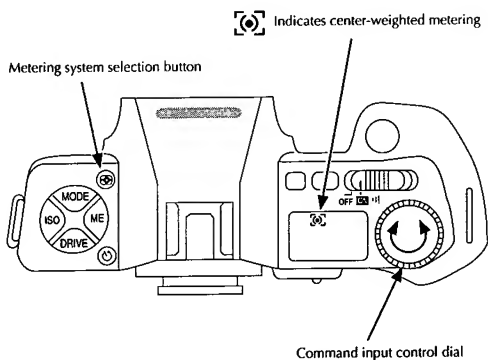
NOTES: As a reminder of the appropriate setting, the center-weighted metering symbol appears on the label beneath the LCD on the camera back.

Spot metering can be used. Matrix metering is not supported.

4. We recommend that if the exposure-mode setting is not P Dual (Dual Program), that you change it to that setting (P_D) now by holding the exposure-mode button while rotating the command input control dial until "P_D" is selected.

NOTE: If you are familiar with the Nikon N8008s camera, you can use any exposure mode.

Exposure-mode button

Exposure-mode setting

Shutter release button

Command input control dial
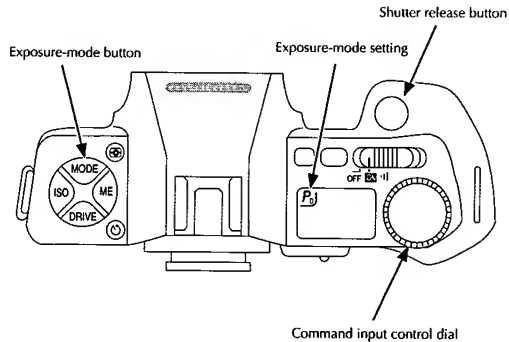
5. If you have set the exposure-mode to P Dual, set the lens to its smallest aperture (f22 on the supplied lens).

6. Set the focus mode selection to S (Single Autofocus mode).
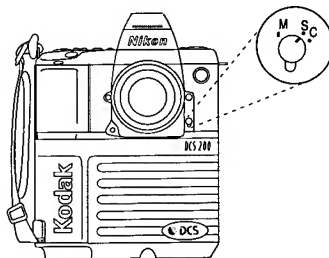
7. Lightly press the shutter release button; you hear a noise as the Nikon camera "wakes" and displays the current shutter speed and aperture on its LCD panel. The camera is ready.

Shutter speed   Aperture
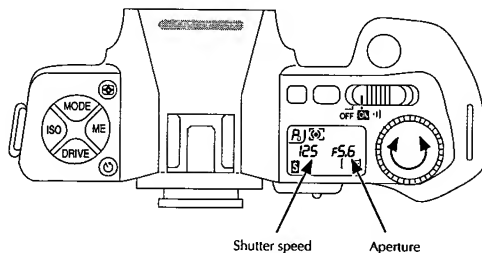
NOTES: To conserve battery power, the camera and camera back automati-cally turn off after approximately ten seconds. This means the camera is no longer in a ready state. If you do not see the current shutter speed and aperture on the Nikon N8008s camera LCD panel, you can immediately waken the system by lightly pressing the shutter release button again.

As part of its normal operation, the Nikon N8008s camera checks to deter-mine if film is loaded. You may hear an unexpected whirring noise when you press the shutter release button to wake the camera since no film is found. This is normal operation, and not a malfunction.

8. Notice that the KODAK camera back is also ready. Its LCD displays graphics like those shown below. If necessary, wake the system by lightly pressing the shutter release button to re-display these graphics.

LCD GRAPHICS

KODAK camera back LCD

Frame counter
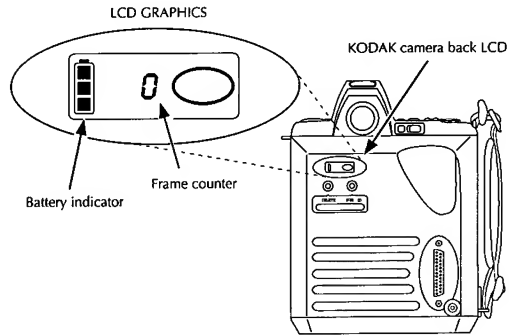
Battery indicator

9. With the system awake, check the battery indicator for the batteries on the KODAK camera back (not the Nikon camera). If it shows that the batteries are low, recharge them or operate the camera from the AC battery charger/adapter as described in "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3, or replace them as described in "Changing Batteries in the KODAK Camera Back" on page 6-48.

Full battery   2/3 full   Low battery

◼️ ◼️ ◼️   ◼️ ◼️   ◼️ ◼️ ◼️ ◀— Blinks when batteries exhausted
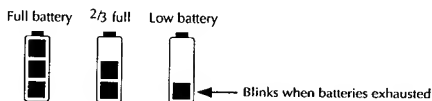
Turning Off the DCS 200 Camera

You turn off the DCS 200 Camera by sliding the Nikon camera power switch to OFF.

When on, the Nikon N8008s batteries will last for hundreds of hours.

The KODAK camera back batteries are only used when the camera is awake. Therefore, in the subsequent steps of this tutorial, you can leave the camera on; it is not necessary to continually turn the camera off then on again. However, in normal operation, when you are finished using the camera, you should slide the power switch to OFF.

Setting the ISO and Other Camera Settings

1. Set the ISO on the camera. We recommend an initial ISO setting of 50 if you are using a color camera back and 100 if you are using a monochrome camera back.

    Set the ISO on the camera by holding the film-speed button while rotating the command input control dial until a setting of 50, 100, 200, or 400 appears if you are using a color camera, or until a setting of 100, 200, 400, 800 appears if you are using a monochrome camera. These are the only supported settings.

Film speed button

Current ISO setting

Command input control dial
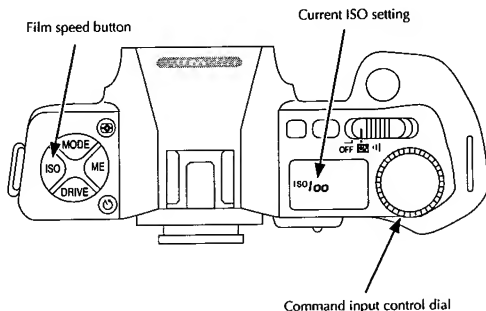
NOTES: As a reminder of the appropriate settings, ISO settings appear on the label beneath the LCD on the camera back.

In selecting an exposure setting, begin with lower exposure index settings; reserve the use of higher speeds only for situations requiring their use. Higher speeds may result in lower-quality images (you may notice grain or snow in the image) than lower speeds.

Later, if you are unable to take pictures, you may see "ISO" blinking on the KODAK camera back LCD. This indicates that the camera body is not set to one of the four prescribed ISO settings. The camera may not shoot in this condition. Reset the ISO.

Blinking
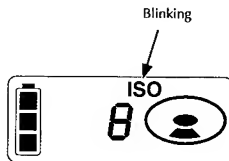
2. (Optional) When in doubt, use a flash both indoors and outdoors. Flash performs as you would expect it to with the regular camera. Set an SB-24 flash to TTL, Normal.

3. Follow directions in the Nikon N8008s instruction manual to select other camera settings as needed for the current shooting situation.

Taking Pictures

NOTE: The separate "Quick Reference" and "Tips" cards provide a variety of
important information about taking pictures with this camera system.

1. If necessary, wake the camera by lightly pressing the shutter release
    button.

2. Frame the scene. The focusing screen shipped in the camera has been
    modified with a shaded border to reduce your view of the scene to
    match the size of the picture that will be recorded on the imager.

MODIFIED FOCUSING SCREEN
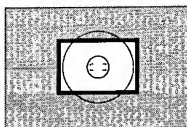
3. Focus then press the shutter release to take a picture.

4. Take additional pictures.

Each time you take a picture, the frame counter on the KODAK camera
back LCD goes up by 1. Your picture is stored initially in the dynamic
random access memory (DRAM). The hard disk must then spin-up before
the image can be moved from DRAM to the hard disk.

Frame counter
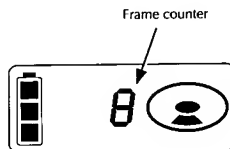
The oval at the right of the LCD indicates the amount of the hard disk filled with images. As more pictures are taken, subsequent sectors of this graphic appear.

Disk empty   Disk up to 1/6 filled   Disk filled (indicator flashes)

The hard disk does not run continuously, since that would quickly drain the batteries; instead, the hard disk spins only when needed. This design means that there is a brief spin-up period before the hard disk is ready. The camera will not allow you to take pictures during part of the time that the hard disk is active. You cannot take a picture while the center dot on the indicator appears; you must wait several seconds until the dot is off before you can take an additional picture.

Waiting before shooting   OK to shoot
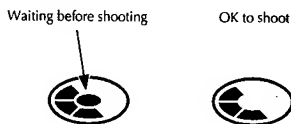
Disk spin-up requires several seconds, and several more seconds are needed to move image data from DRAM to the hard disk. If you are operating from batteries, the hard disk turns off when the Nikon N8008s sleeps.

Deleting Pictures (Optional)

This section describes how you can delete the last picture from the hard disk. This feature is useful if your hard disk is full and you need to make room for more pictures or if you know that you have taken an unsatisfactory picture and want to delete it. With this feature you can delete one or more of the last pictures you have taken. (Refer to "Delete" on page 7-14 if you will use the camera with a Macintosh computer and to "Delete" on page 8-13 if you will use the camera with a PC, for a description of how to delete pictures from the DCS 200 Camera hard disk with the software drivers provided by Kodak.)

1. Wake-up the system by lightly pressing the shutter release button.

   NOTE: After several seconds of inactivity, the camera system automatically turns off. As you complete these steps you may need to begin again at this step.

2. Locate the indentation on the back of the DCS 200 Camera labeled
    DELETE.

Frame counter
Indicates delete mode
Disk indicator

DEL

DELETE   SCSI ID
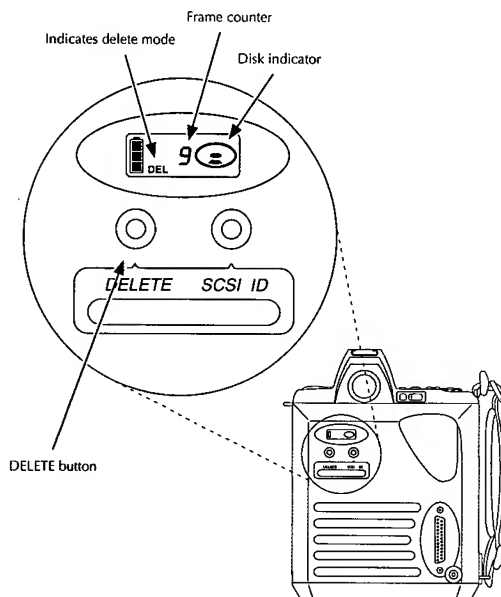
DELETE button

3. Press the DELETE button once with an object like a very blunt pencil or ball point pen; this action wakes delete mode. (Do not use a sharp object; it can puncture the button and damage the switch.) The hard disk begins to spin, the characters "DEL" appear on the LCD, and the LCD shows image number 0.

4. Wait several seconds until an image number replaces number 0 on the LCD.

5. While DEL still appears on the LCD, press the DELETE button again. The last image is deleted, and frame counter changes to display the image number of the current last image on the hard disk.

6. (Optional) Press the DELETE button again to delete another picture.

NOTES: Suppose that you have a blank disk and take five pictures, numbered 1, 2, 3, 4, and 5. Then suppose that you delete two images — images 5 and then 4. As you take new pictures, they will be numbered 6, 7, 8, etc. The image numbers of deleted images are not assigned to new images. Refer to "Image Numbering System" on page 6-6 for a complete explanation.

If you inadvertently delete images, an emergency procedure provides an opportunity for you to recover images if you do so before making any additional images. Refer to "Control Panel" for the Macintosh platform on page 7-15, or for the PC platform on page 8-14.

Turning off the DCS 200 Camera

Turn off the camera system by sliding the Nikon camera power switch to OFF.

Using the DCS 200 Camera with an External Hard Disk

The steps in this section describe how to use the camera assuming that an optional external hard disk — not supplied by Kodak — will be used (with or without an internal hard disk). Refer to the tabbed section "Using an external hard disk" for additional information.

IMPORTANT: There are SCSI settings on the KODAK camera back and on the external hard disk; however, they do not need to match when the external hard disk is connected to the camera. They are used when connecting to a Macintosh computer or a PC. (Refer to the tabbed section "Using with the Macintosh" or "Using with the PC" for an explanation of these settings.)

Your external hard disk may be preformatted, and may contain computer systems files or files you have placed on the disk. However, once attached to the DCS 200 Camera, the hard disk no longer functions as a general-purpose hard disk (unless reformatted with utility software). Instead, you can only access image data with the supplied software drivers. This means you must copy any files you want to preserve from the hard disk before you attach the hard disk to the DCS 200 Camera.

Attaching the Velcro Strap (Optional)

NOTE: The installation of the Velcro strap described in this section is optional, although it is recommended if the camera will be carried with an external hard disk attached.

1. Turn off the camera by moving the power switch to OFF.

Power switch set to OFF
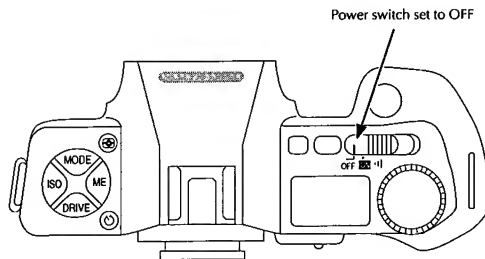
2. Locate the Velcro strap supplied by Kodak; it is used to hold an external hard disk to the KODAK camera back. The strap is composed of four separate pieces, a belt, two short strips with a paper backing, and an extender pad.

Belt

Strips with paper backing

Extender pad
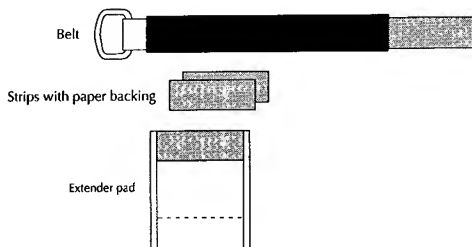
3. Remove and discard the paper backing from one of the short strips. (The second strip is a spare provided for future use if needed.)

4. Press the gummed back of the short strip in place as shown below. Once attached, it remains permanently in place and should not be removed.
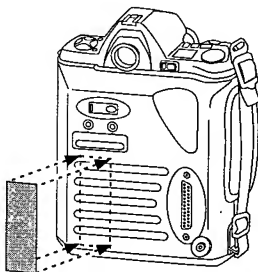
Attaching an External Hard Disk

1. Read the instructions accompanying the hard disk, including all operating cautions and specifications.

2. (Optional) If you will be using the AC battery charger/adapter while an external hard disk will be connected, you will need to use the SCSI extender (supplied with the hard disk) and the extender pad as described in this step. The SCSI extender provides the space necessary for connecting the AC battery charger/adapter.

   Complete parts A and B of this step, then continue at the next step.

   A. Attach the SCSI extender.

KODAK camera back
SCSI connector

External hard disk
SCSI extender
(optional)
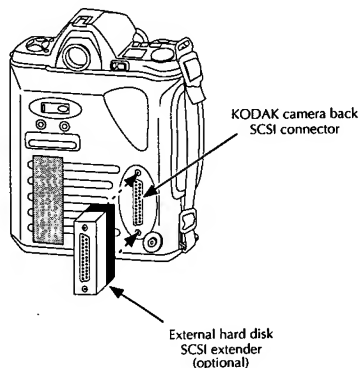
B. Wrap the extender pad around the belt as shown below, first
    folding side 1, then side 2.

2. Then fold this side onto side 1 and press firmly.

Hook Velcro on top, pile Velcro on back.

No Velcro on top, pile Velcro on back.
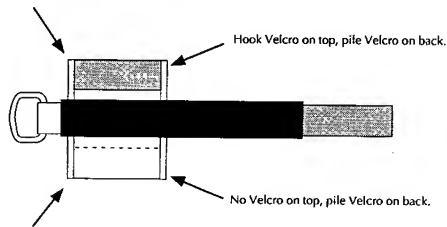
1. Fold this side onto belt.

c. Press the extender pad on the belt into place against the short strip as shown below.
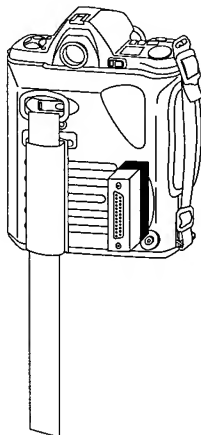
3. (Optional) If you have not attached the belt with the extender pad to the camera in step 2 just above, attach the belt alone as shown below.

Strip

Belt with smooth side
face up
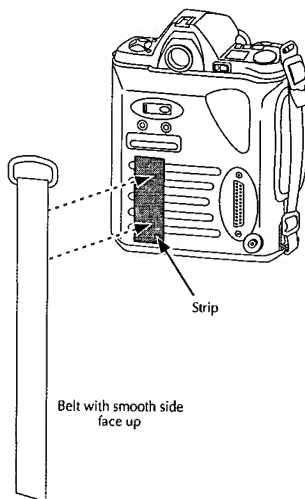
4. Mate the external hard disk SCSI connector to the SCSI connector on the KODAK camera back (or to the SCSI extender if in place).

KODAK camera back
SCSI connector
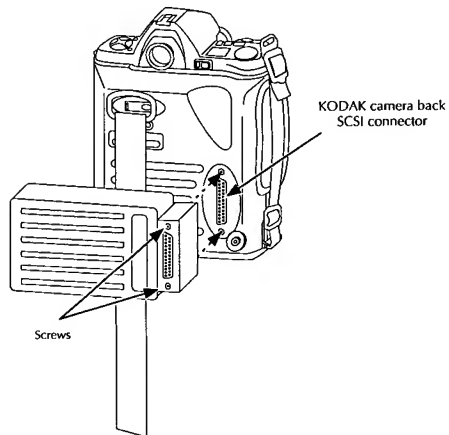
Screws

5. Tighten the screws on the external hard disk to secure it to the KODAK camera back (or to the SCSI extender if in place).

6. If you have attached the Velcro strap, wrap the belt around the hard disk, insert the tab up through the buckle, lightly tighten the belt, and fold the tabbed end of the belt against itself.

The camera is now ready for use.

Buckle

Tab

Belt
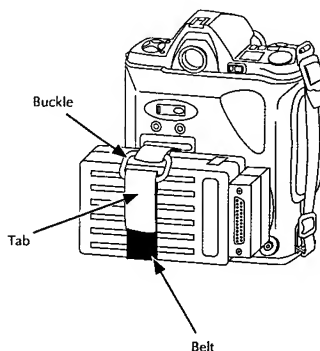
Operating Principles with an External Hard Disk

The operation of the DCS 200 Camera when an external hard disk is attached is identical to its operation as described above in the section entitled "Using the DCS 200 Camera with an Internal Hard Disk" on page

3-10. However, when both an internal and an external hard disk are present, you must be aware of the following.

► Pictures you take are stored to the external hard disk until it is filled or removed. No images will be saved to an internal hard disk if an external hard disk is attached.

► When you delete pictures with the DELETE button on the camera, they are deleted one-by-one from the end of the external hard disk until all are deleted from that disk. No images will be deleted from the internal disk while an external hard disk is attached. You must remove the external hard disk (described below) before you can delete images from the internal hard disk.

► Multiple external hard disks can be used — one at a time. You can remove one external hard disk from the camera and replace it with another. Do not attach more than one external hard disk to the DCS 200 Camera at the same time; if you do, you may have unpredictable results. You can connect detached external hard disks to a computer and move images from external hard disks to your computer hard disk.

IMPORTANT: Later when you are ready to acquire images on your computer from the external hard disk, you must disconnect the hard disk from the camera back before connecting it to the computer. Never connect the DCS 200 Camera to a computer while an external hard disk is connected to the DCS 200 Camera.

Your external hard disk may be preformatted, and may contain computer systems files or files you have placed on the disk. However, once attached to the DCS 200 Camera, the hard disk no longer functions as a general-purpose hard disk (unless reformatted with utility software). Instead, you can only access image data with the supplied software drivers. This means you must copy any files you want to preserve from the hard disk before you attach the hard disk to the DCS 200 Camera.

Removing an External Hard Disk

1. Turn off the camera system by moving the power switch to OFF.

2. If you have attached the Velcro strap, undo the belt securing the external hard disk to the DCS 200 Camera.

3. Loosen and disengage the screws securing the external hard disk to the DCS 200 Camera (or to the SCSI extender if in place).

4. Gently separate the external hard disk from the DCS 200 Camera (or from the SCSI extender if in place).

5. If you have attached the Velcro strap, reinsert the belt through the buckle, fold the belt back onto itself, and leave it in place on the camera back. (The SCSI extender can also be left in place on the camera back.)

NOTE: You can remove the belt and store it separately. If you do remove the belt, leave the short strip permanently attached to the camera. You can also remove the SCSI extender and store it separately.

Belt left in place
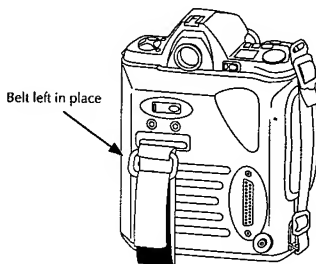
Using the DCS 200 Camera Without a Hard Disk

This section applies only to camera models purchased without an internal hard disk. DCS 200 Camera models without a hard disk are intended for use in situations where the camera is connected to a computer (as described in later sections). In that configuration, each image you take is automatically available for uploading to the computer. However, you can also disconnect the camera from the computer, take the camera to another location — perhaps the next room — take one picture, and return and move that image to the computer. In this mode you operate the camera identically to the instructions provided in the section above entitled "Using the DCS 200 Camera with an Internal Hard Disk" on page 3-10 with the exceptions below.

▶ You are only able to store a single image which is saved in dynamic random access memory (DRAM).

▶ If you take additional pictures, each replaces the previous image in DRAM; each previous image is lost. The latest image will be retained for up to several hours (even if the KODAK camera back is removed from the camera body). The camera back will remain on for several hours. It will turn off earlier if the image is deleted by pressing the DELETE button on the camera back or with the software driver (explained later), or if the batteries are removed from the camera back.

▶ The frame counter is increased by one for each picture you take; however, it is important to realize that only the latest image is retained. No images are being stored to disk since no hard disk is present; the disk indicator displays one segment when an image is present in DRAM.

Using the Nikon N8008s Camera

NOTE: We assume that you are familiar with the operation of the Nikon N8008s camera (also called a Nikon F-801s in some parts of the world); refer to the instruction manual for that camera if needed.

Although the DCS 200 Camera operates with an unmodified Nikon N8008s camera, there are differences between normal operation of the Nikon N8008s camera and its operation as part of the DCS 200 Camera. For that reason we provide a list of the differences, and other considerations as you begin to work with the camera system.

▶ You use the KODAK camera back incorporating a Kodak imager instead of the Nikon N8008s camera back for film. The KODAK camera back comes attached to the Nikon camera body.

▶ You use no film.

▶ Nikon film camera backs cannot be used.

▶ The DCS 200 Camera operates correctly only in single-frame (S) film-advance mode. Continuous shooting modes (CL and CH) are not supported; only a single exposure will be taken, although repeated shutter operations will occur.

▶ You must use only the prescribed ISO settings. Select an ISO setting of 50, 100, 200, or 400 for color camera backs, or 100, 200, 400, or 800 for monochrome cameras.

▶ Multiple-exposure mode does not work. Only the first exposure will be recorded.

▶ The system will not allow you to take pictures during part of the time that a hard disk (internal or external) is active.

Wait before shooting   OK to shoot

▶ To use the bulb setting, begin as expected by choosing manual exposure mode and rotating the command input control dial until the bulb choice appears. However, wait approximately eight seconds for the camera to sleep (or turn the camera off and then on). Then wake the camera. Bulb mode is now ready.

▶ Matrix metering is not supported; if used it will result in incorrect exposures. (Matrix metering divides the scene into five areas; how- ever, the imager in the camera is smaller than the image area of 35 mm film, resulting in an incorrect exposure with matrix metering.)

▶ Center-weighted metering is recommended, although spot metering can also be used; refer to the Nikon manual for an explanation of the differences between these options. (Matrix metering is not supported.)

▶ As part of its normal operation, the Nikon N8008s camera checks to determine if film is loaded. You will hear an unexpected whirring noise (and experience a brief delay), when you press the shutter release button to wake the camera since no film is found. This is normal operation, not a malfunction.

▶ The Nikon N8008s shipped with the DCS 200 Camera has a modified focusing screen installed in place of the original Nikon focusing screen. The modified screen reduces your view of the scene to match the size of the picture that will be recorded on the imager.

▶ Exposures of more than 4-5 seconds can produce small imperfections in your images.

▶ The film installation mark, film advance and rewind mark, and frame counter do not appear in the Nikon N8008s camera liquid crystal display (LCD). (A frame counter appears in the LCD in the KODAK camera back.)

▶ Lenses behave differently when used with the Nikon N8008s. The imager in the camera provides a smaller image area than 35 mm film;

it produces a field of view equal to using a lens with 2.6 times the focal length of the lens in use, as indicated in the representative lenses listed in the following figure.

A standard AF Nikkor lens . . .	performs approximately like this lens.
18	50
24	60
28	70
35	85
50	135
105	300
	500
200	
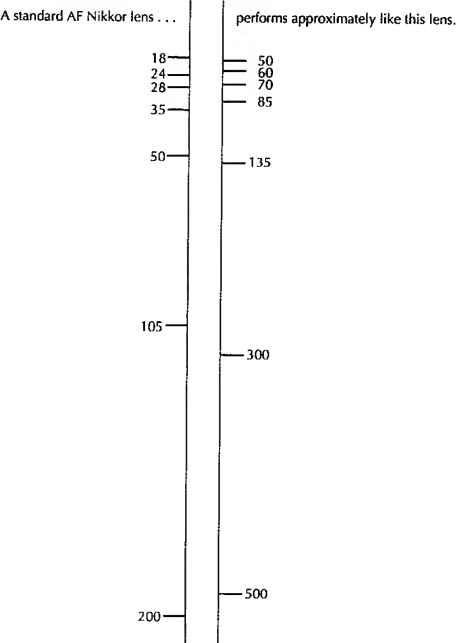
Using the DCS 200 Camera with a Macintosh Computer

This section contains the following material that describes the steps you follow when using the KODAK Professional DCS 200 Digital Camera (DCS 200 Camera) with your Macintosh computer.

► Setting the SCSI ID on the DCS 200 Camera.

► Connecting the DCS 200 Camera to your Macintosh computer.

► Using the Kodak Driver for Adobe Photoshop Software — a tutorial.

► Taking pictures while connected to the computer.

The DCS 200 Camera is designed to be connected to your computer. Once connected, you use the supplied software driver to save images onto

your computer hard disk. You can then edit images and can save images on your computer hard disk for use with other products. While connected, you can use both the camera and the computer simultaneously.

IMPORTANT: If you have an optional external hard disk connected to your camera you should remove it before following the steps below. If you want to access images from the external hard disk instead of the camera, attach the external hard disk to the computer by following directions in the tabbed section "Using an external hard disk," and then continue at "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.

We assume that you are familiar with the operation of your Macintosh computer. If you are not, refer to the manuals and other learning materials that accompany that computer before continuing.

Setting the SCSI ID on the DCS 200 Camera

In these steps you will set the SCSI identification (ID) number for the DCS 200 Camera. Each SCSI device connected to the same computer must have a different ID number. Your Macintosh computer is number 7, and the internal hard disk on your computer is probably number 0. Therefore avoid numbers 0 and 7 since the DCS 200 Camera must have a unique SCSI ID.

1. If the DCS 200 Camera is connected to the Macintosh computer, turn off the camera and the computer, and then disconnect the camera. (The camera and the computer should not be connected when you change the SCSI ID on the DCS 200 Camera.)

2. If SCSI devices other than the DCS 200 Camera are connected to your Macintosh computer, determine their SCSI identification numbers so that you can select a different number for the DCS 200 Camera. If necessary, refer to the instructions for those devices to determine how to find their numbers.

NOTE: Since you may connect the camera to different computers, or since you may change the external devices connected to a Macintosh computer you regularly use with the camera, you should ensure that the DCS 200 Camera has a unique SCSI ID each time you connect it to a Macintosh computer.

3. Turn on the DCS 200 Camera by sliding the power switch to ON.

Power switch set to ON
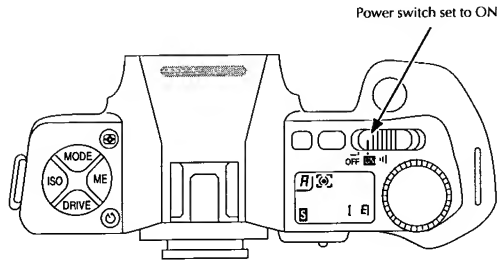
4. Wake-up the system by lightly pressing the shutter release button.

5. Locate the indentation on the back of the DCS 200 Camera labeled SCSI ID.

SCSI ID button

DELETE   SCSI ID
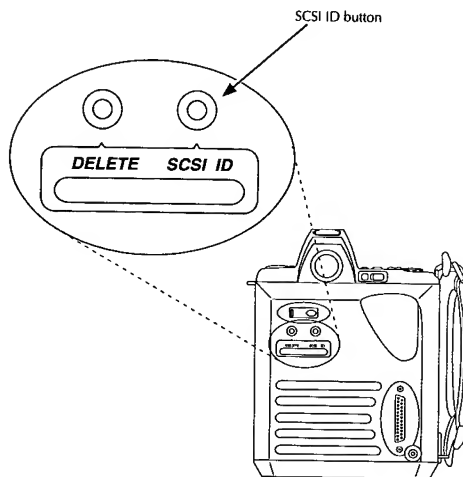
6. Press the SCSI ID button once with an object like a very blunt pencil or ball point pen; this action wakes SCSI mode. (Do not use a sharp object; it can puncture the button and damage the switch.) The characters "SCSI" — the SCSI indicator — appear on the liquid crystal display (LCD), as does a single digit from 0 to 7. That value is the current SCSI ID of the DCS 200 Camera.

NOTES: After several seconds of inactivity, the DCS 200 Camera turns off, and the SCSI indicator disappears from the LCD. If necessary, wake the camera by lightly pressing the shutter release button again.

If you are using a monochrome camera, in addition to the digits from 0 to 7, there is a "CF" choice. Use the CF choice, which stands for color filter mode, when using the monochrome camera with the optional KODAK Color Filter Wheel Accessory. (A separate instruction manual accompanies that accessory.)

SCSI ID

SCSI ID button

SCSI

DELETE   SCSI ID

SCSI indicator
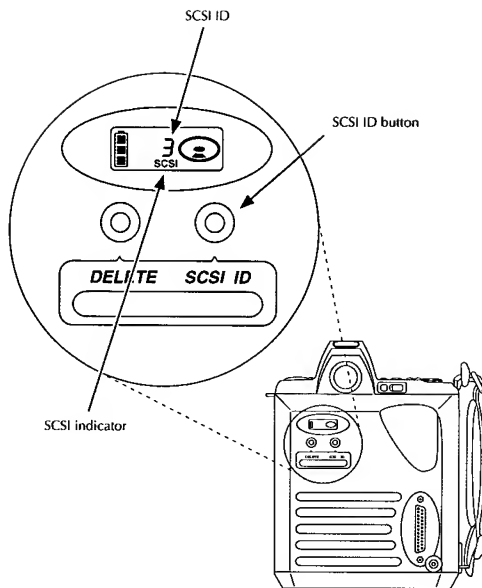
7. While "SCSI" still appears on the LCD, you change the current SCSI ID by pressing the SCSI ID button repeatedly. The ID rotates through the values 0 to 7 (and "CF" if you are using a monochrome camera). Stop when you have the SCSI ID you want. As mentioned earlier, avoid the values 0 and 7, and do not use a number currently assigned to any other connected SCSI device.

Making the SCSI Connection

The KODAK Professional DCS 200 Digital Camera (DCS 200 Camera) is a non-terminated SCSI device that connects to your Macintosh computer with one of the included SCSI cables. In normal usage you may connect and disconnect the camera from the Macintosh computer on a regular basis; for this reason you may want to position your computer so that its SCSI connector is readily accessible.

The back of the Macintosh computer has a number of connectors and accompanying icons, including a SCSI connector (also called a port) and icon. Find that SCSI port now, and determine whether or not a device is attached. Different Macintosh computers have different connectors. The figures in this section are intended to illustrate a typical Macintosh computer.

Two sets of instructions follow, depending on whether or not other external SCSI devices are connected to your computer.

CAUTION: If an external hard disk is connected to your camera you should remove it before following the steps below.

SCSI terminators are not supplied with the DCS 200 Camera. If other external SCSI devices are connected to your computer, you may need to obtain a SCSI terminator to complete these steps.

BACK OF MACINTOSH COMPUTER

SCSI Icon

SCSI Port
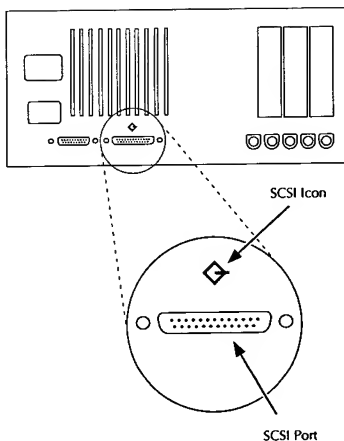
DCS 200 Camera as the Sole SCSI Device

Follow these steps if you will connect the DCS 200 Camera as the sole
external SCSI device attached to your Macintosh computer; otherwise
continue at the section of this manual entitled "DCS 200 Camera Used
with Other SCSI Devices," on page 4-24.

Four sets of directions are provided. Follow the first set (this page) for any
supported Macintosh computers except the Macintosh IIfx, PowerBook,
Performa, IIvi, IIvx, Centris, or Quadra 800 computers. Follow the second
set (page 4-13) for the Macintosh IIfx computer, the third set (page 4-16)
for the PowerBook, and the fourth set (page 4-21) for other Macintosh
computers.

**Follow these steps if no external devices are
connected and you are using any supported
Macintosh computer except the Macintosh IIfx,
IIvi, IIvx, or PowerBook, Performa, Centris, or
Quadra 800 computers.**

1. Turn off the DCS 200 Camera and the Macintosh computer.

    IMPORTANT: Later when you connect and disconnect the Macintosh
    computer and the DCS 200 Camera on a regular basis, make sure that both of
    them are off. (Some software and peripherals check the SCSI connection
    periodically. If the Macintosh computer is on, and you connect the camera
    while the SCSI connection is being used, the Macintosh computer may hang
    and you will need to restart.)

2. Place the DCS 200 Camera in a convenient position next to your
    Macintosh computer.

3. Connect the AC battery charger/adapter to the camera as described in
    "Charging Batteries and Using the AC Battery Charger/Adapter" on
    page 3-3. (Although this step is optional, we recommend it whenever
    the camera is connected to a computer.)

4. Select the SCSI cable with the 25-pin connectors at both ends.

   IMPORTANT: Use only the cable supplied with the DCS 200 Camera; do not use a substitute cable.

   SCSI CABLE

   25-pin Connector   25-pin Connector

5. Attach one 25-pin connector to the SCSI port on the back of the Macintosh computer. Make sure the connector is well seated by pressing it into place firmly, and then tighten both knobs on the cable connector.

   Knobs
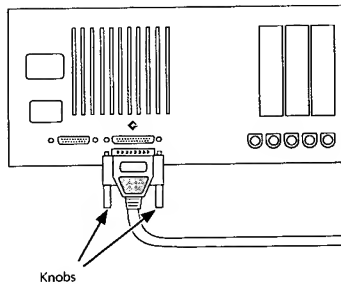
6. Attach the other end of the SCSI cable to the SCSI port on the back of the DCS 200 Camera.
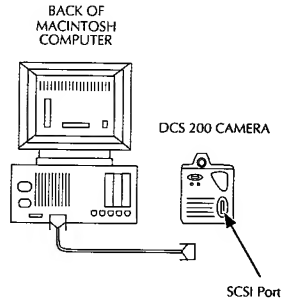
BACK OF
MACINTOSH
COMPUTER

DCS 200 CAMERA

SCSI Port

Skip the next sections and continue at "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.

Follow these steps if no external devices are connected and you are using a Macintosh IIfx computer.

For this installation you will need to supply a second 25-pin to 50-pin SCSI cable (two are needed, but only one is supplied with the DCS 200

Camera), a black SCSI terminator made especially for the Macintosh IIfx computer, and a SCSI gender changer (available from Kodak — refer to the Spare Parts List in the tabbed section "Optional Equipment & Spare Parts List").

Terminator   Gender changer

Refer to the following figure as you complete the steps below. The numbers in the figure correspond to the numbered steps.

BACK OF
MACINTOSH IIfx
COMPUTER

DCS 200 CAMERA

SCSI Connector

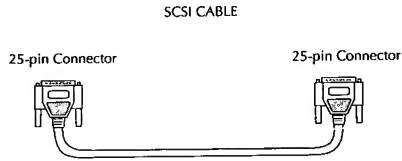25-pin Connector

4   5 6 7   8
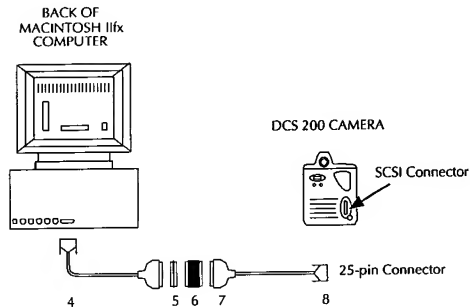
1. Turn off the DCS 200 Camera and the Macintosh IIfx computer.

   IMPORTANT: Later when you connect and disconnect the Macintosh IIfx computer and the DCS 200 Camera on a regular basis, make sure that both of them are off. (Some software and peripherals check the SCSI connection periodically. If the Macintosh computer is on, and you connect the camera while the SCSI connection is being used, the Macintosh computer may hang and you will need to restart.)

2. Place the DCS 200 Camera in a convenient position next to your Macintosh IIfx computer.

3. Connect the AC battery charger/adapter to the camera as described in "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3. (Although this step is optional, we recommend it whenever the camera is connected to a computer.)

4. Attach the 25-pin connector of the 25-pin to 50-pin SCSI cable that you have supplied to the SCSI port on the back of the Macintosh IIfx computer. Make sure the connector is well seated by pressing it into place firmly, and then tighten both knobs on the cable connector.

5. Attach either end of the 50-pin gender changer to the open, 50-pin end of the SCSI cable attached to the Macintosh IIfx computer. (Refer to the tabbed section "Optional Equipment & Spare Parts List" for ordering information on the gender changer.)

6. Attach your black terminator made especially for the Macintosh IIfx computer to the open connector on the 50-pin gender changer.

7. Attach the 50-pin connector on the 25-pin to 50-pin SCSI cable supplied by Kodak to the open end on the black terminator.

8. Attach the 25-pin connector on the SCSI cable to the SCSI connector on the back of the DCS 200 Camera.

Skip the next sections and continue at "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.

Follow these steps if no external devices are connected and you are using a Macintosh PowerBook computer.

The camera has been successfully tested with a variety of PowerBook computer models (except do not use the camera with the model 100). However, the information in this section may not apply to all PowerBook models. There are two acceptable methods of connecting the DCS 200 Camera to a PowerBook computer. The first method presented below is more direct, and is the preferred method.

Method 1 (Preferred)

For this installation you will need to supply an HDI-30-pin to 25-pin Macintosh PowerBook SCSI adapter cable and one 25-pin SCSI terminator. (One 25-pin SCSI terminator is supplied with the camera; a second terminator is available from Kodak — refer to the tabbed section "Optional Equipment & Spare Parts List" for ordering information.)

PowerBook SCSI Adapter Cable

25-pin
SCSI Terminators

HDI-30-pin Connector

25-pin Connector

Refer to the following figure as you complete the steps below. The num-
bers in the figure correspond to the numbered steps.

BACK OF
POWERBOOK
COMPUTER

DCS 200 CAMERA

SCSI Connector

3   4   5   6

1. Turn off the DCS 200 camera and the Macintosh PowerBook com-
    puter.

    IMPORTANT: Later when you connect and disconnect the Macintosh
    PowerBook computer and the DCS 200 Camera on a regular basis, make sure
    that both are off. (Some software and peripherals check the SCSI connection
    periodically. If the Macintosh computer is on, and you connect the camera
    while the SCSI connection is being used, the Macintosh computer may hang
    and you will need to restart.)

2. (Optional) Connect the AC battery charger/adapter to the camera as
    described in "Charging Batteries and Using the AC Battery Charger/
    Adapter" on page 3-3.

3. Attach the HDI-30-pin connector of your HDI-30-pin to 25-pin SCSI
    cable to the HDI-30 port on the back of the Macintosh PowerBook.
    Make sure the connector is well seated by pressing it into place firmly.

4. Attach the appropriate end of the supplied 25-pin SCSI terminator to the open, 25-pin end of the SCSI cable you just attached to the Macintosh PowerBook computer.

5. Attach the appropriate end of the second 25-pin SCSI terminator (not supplied) to the open end of the 25-pin SCSI terminator you just attached to the SCSI cable.

6. Attach the open end of the second 25-pin SCSI terminator to the SCSI connector on the back of the DCS 200 Camera.

Method 2

For this installation you will need to supply an HDI-30-pin to 50-pin Macintosh PowerBook SCSI adapter cable, two 50-pin SCSI terminators, and a SCSI gender changer (available from Kodak — refer to the tabbed section "Optional Equipment & Spare Parts List" for ordering information).
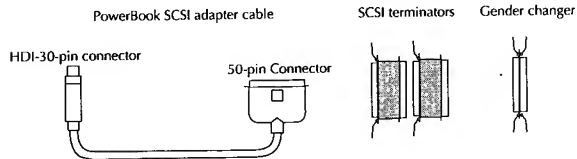
Refer to the following figure as you complete the steps below. The numbers in the figure correspond to the numbered steps.

1. Turn off the DCS 200 camera and the Macintosh PowerBook computer.

    IMPORTANT: Later when you connect and disconnect the Macintosh PowerBook computer and the DCS 200 Camera or a regular basis, make sure that both are off. (Some software and peripherals check the SCSI connection periodically. If the Macintosh computer is on, and you connect the camera while the SCSI connection is being used, the Macintosh computer may hang and you will need to restart.)

2. (Optional) Connect the AC battery charger/adapter to the camera as described in "Charging Batteries and Using the AC Battery Charger/ Adapter" on page 3-3.

3. Attach the HDI-30-pin connector of your HDI-30-pin to 50-pin SCSI cable to the HDI-30 port on the back of the Macintosh PowerBook. Make sure the connector is well seated by pressing it into place firmly.

4. Attach the appropriate end of one of your SCSI terminators to the open, 50-pin end of the SCSI cable you just attached to the Macintosh PowerBook computer.

5. Attach either end of the 50-pin gender changer to the open, 50-pin end of the SCSI terminator you attached in the previous step. (Refer to the tabbed section "Optional Equipment & Spare Parts List" for ordering information on the gender changer.)

6. Attach the appropriate end of your other SCSI terminator to the open, 50-pin end of the gender changer you attached in the previous step.

7. Attach the 50-pin connector on the 25-pin to 50-pin SCSI cable supplied by Kodak to the open end of the SCSI terminator you attached in the previous step.

8. Attach the 25-pin connector on the SCSI cable to the SCSI connector on the back of the DCS 200 Camera.

Skip the next sections and continue at "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.
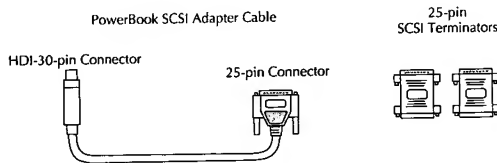
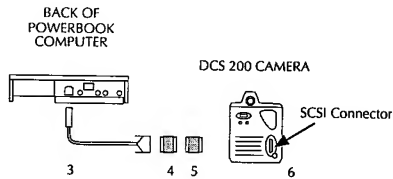**Follow these steps if no external devices are connected and you are using a Macintosh Performa 600 or 600CD, IIvi, IIvx, Centris 610 or 650, Quadra 800 or other Macintosh computer model released after this manual was published.**

These Macintosh models are actively terminated, which means added steps may be required to connect them to the DCS 200 Camera. In addition, Macintosh computer models that are introduced after this manual is published, may also be actively terminated, and may require that you follow the added steps below.

Our testing indicates that:

▶ Steps 6 and 7 below *are required* for the Macintosh Performa 600 and 600CD, IIvi, and IIvx. (If you do not add these steps, your camera will go to sleep even if the software driver window — described later in this chapter — is open on your computer.)

▶ Steps 6 and 7 below *may be required* with the Macintosh Centris 610 and 650, and Quadra 800. Try first without adding the steps. If the camera stays awake while the driver window — described later in this chapter — is open on your computer, then the steps are not needed; however, if the camera goes to sleep, then add steps 6 and 7 below.

Complete these steps as directed above.
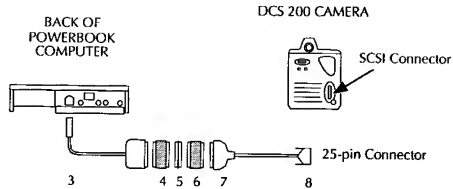
1-5.   Follow steps 1-5 on pages 4-11 through 4-12.

6.   Attach the appropriate end of the supplied 25-pin SCSI terminator to the open 25-pin end of the SCSI cable you just attached to your Macintosh computer.

BACK OF
MACINTOSH
COMPUTER
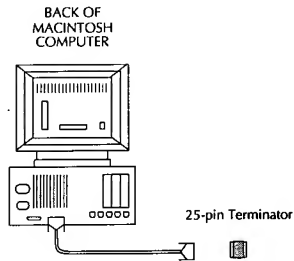
25-pin Terminator

7. Attach the open end of the 25-pin terminator to the SCSI connector on the back of the DCS 200 Camera.
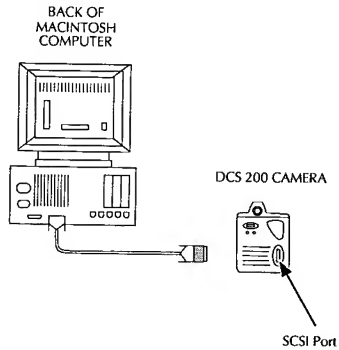
BACK OF
MACINTOSH
COMPUTER

DCS 200 CAMERA

SCSI Port

Skip the next sections and continue at "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.

DCS 200 Camera Used with Other SCSI Devices

Follow these steps if one or more external SCSI devices are already connected to your Macintosh computer; otherwise continue at the next section of this manual entitled "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.

Multiple SCSI devices are connected to the Macintosh computer in a chain. If the DCS 200 Camera is one of multiple SCSI devices connected to your Macintosh computer, it must be connected as the last device in the chain of SCSI devices since it only includes one SCSI connector.

The total cable length connecting all devices must not exceed 15 feet (4.6 meters).

You will need to determine if the connected SCSI devices are terminated or not. To do so, first look for an external SCSI terminator on the devices. Because some devices contain internal terminators, also check the instructions for your devices to determine if they are terminated internally.

We provide two sets of instructions. Follow the first set (on the next page) if none of the connected devices are terminated or if one of the devices is terminated externally. Follow the second set (page 4-28) if one of the devices — it should be the last device in the chain — is terminated internally.

Follow these steps if none of the connected devices are terminated or if one of the devices is terminated externally.

1. Turn off the DCS 200 Camera, the Macintosh computer, and all connected SCSI devices.

   IMPORTANT: Later, when you connect and disconnect the Macintosh computer and the DCS 200 Camera on a regular basis, make sure that all devices are off. (Some software and peripherals check the SCSI connection periodically. If the Macintosh computer is on, and you connect the camera while the SCSI connection is being used, the Macintosh computer may hang and you will need to restart.)

2. Place the DCS 200 Camera in a convenient position next to the last device in the SCSI chain of devices connected to your Macintosh computer.

3. Connect the AC battery charger/adapter to the camera as described in "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3. (Although this step is optional, we recommend it whenever the camera is connected to a computer.)

4. If there is an external SCSI terminator on an otherwise empty SCSI connector on the last device, leave it in place.

   If there is an external SCSI terminator between the end of a cable and a SCSI connector on a device, remove the terminator. Reconnect the cable. (Later, if you remove the DCS 200 Camera cable from your Macintosh computer, remember to replace this terminator.)

5. If no terminator is connected to the empty SCSI connector on the last device in the chain, connect your SCSI terminator (not supplied by Kodak), as shown in the illustration below. Make sure the terminator is well seated by pressing it into place firmly, and then pinch the thin wire clamps over its base.

NOTE: If you have a Macintosh IIfx computer, you must use the appropriate SCSI terminator (not supplied with the DCS 200 Camera) for that computer system.

BACK OF
MACINTOSH
COMPUTER

BACK OF ONE OR MORE
NON-INTERNALLY TERMINATED
SCSI DEVICES

Empty SCSI Connector

SCSI Terminator

6. Select the SCSI cable with the 50-pin connector at one end and the 25-pin connector at the other end.

   IMPORTANT: Use only the cable supplied with the DCS 200 Camera; do not use a substitute cable.

50-pin Connector   25-pin Connector

7. Connect the 50-pin connector to the terminator on the last SCSI device in the chain. Make sure the connector is well seated by pressing it into place firmly, and then pinch the thin wire clamps over its base.

SCSI Terminator

25-pin Connector

50-pin Connector

8. Attach the other end of the SCSI cable to the SCSI connector on the DCS 200 Camera.

DCS 200 CAMERA

SCSI Connector

25-pin Connector
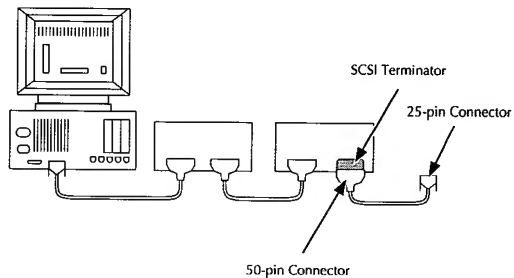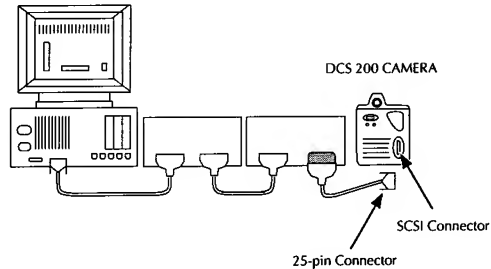
Skip the next section and continue at "Using the Kodak Driver for Adobe Photoshop Software" on page 4-33.

Follow these steps if the last connected device is terminated internally.

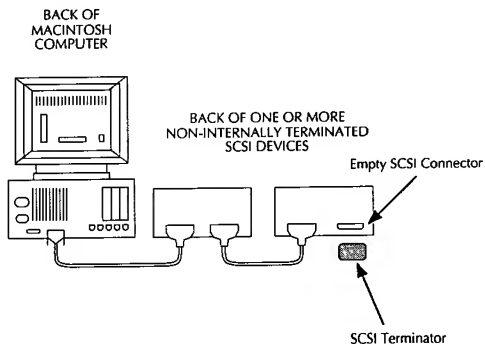1. Turn off the DCS 200 Camera, the Macintosh computer, and all connected SCSI devices.

   IMPORTANT: Later when you connect and disconnect the Macintosh computer and the DCS 200 Camera on a regular basis, make sure that all devices are off. (Some software and peripherals check the SCSI connection

periodically. If the Macintosh computer is on, and you connect the camera while the SCSI connection is being used, the Macintosh computer may hang and you will need to restart.)

2. Place the DCS 200 Camera in a convenient position next to the last device in the SCSI chain of devices connected to your Macintosh computer.

3. Connect the AC battery charger/adapter to the camera as described in "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3. (Although this step is optional, we recommend it whenever the camera is connected to a computer.)

4. Select the SCSI cable with the 50-pin connector at one end and the 25-pin connector at the other end.

IMPORTANT: Use only the cable supplied with the DCS 200 Camera; do not use a substitute cable.

50-pin Connector   25-pin Connector

5. Connect the 50-pin connector to the empty SCSI connector of the device that is terminated internally. Make sure the connector is well seated by pressing it into place firmly, and then pinch the thin wire clamps over its base.

BACK OF
MACINTOSH
COMPUTER

BACK OF ONE OR MORE
SCSI DEVICES

Not
Terminated

Terminated
Internally

25-pin Connector

50-pin Connector

6. Attach the other end of the SCSI cable to the SCSI connector on the DCS 200 Camera.

SCSI Connector

25-pin Connector
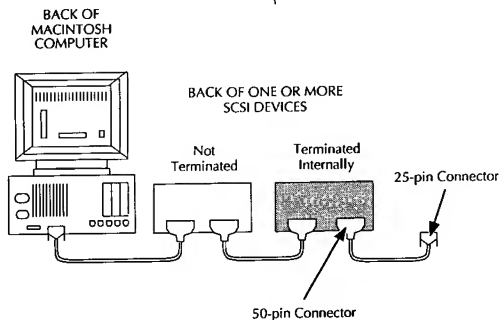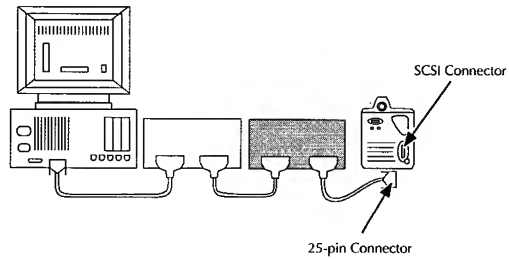
Connecting an Optional External Hard Disk to Your Macintosh Computer

If you want to obtain images from an optional external hard disk, instead of from the camera, remove the optional external hard disk from the camera and attach it to your Macintosh computer by following the directions provided in the tabbed section "Using an external hard disk."

Using the Kodak Driver for Adobe Photoshop Software

You can move images from the DCS 200 Camera or your external hard disk to your Macintosh computer by acquiring them while running your copy of Adobe Photoshop. To do so you use the Acquire submenu on the Photoshop File menu to access the DCS 200 Camera or external hard disk with a special software driver provided by Kodak. In the following instructions you will install the driver and use it to acquire images.

NOTE: We assume that you are familiar with the operation of the Macintosh computer and with Adobe Photoshop. If you are not, refer to the instruction manuals that accompany those products.

Installing the Kodak Driver for Adobe Photoshop Software

NOTE: If you have not already done so, complete and submit the enclosed Warranty Registration card. Also, please read the Software License Agreement at the front of this manual.

In this section you will install the software driver provided by Kodak for use with Adobe Photoshop software. It allows you to acquire images from the DCS 200 Camera, or from an external hard disk that has been used with the DCS 200 Camera, into Adobe Photoshop. (Installing the driver is a one-time action; you complete these steps once, and do not repeat them each time you want to acquire images.)

1. Turn on your Macintosh computer; after a short wait you will be in the Finder. (If your Macintosh computer has been configured to open applications other than the Finder, return to the Finder now.)

2. Locate the diskette labeled "KODAK Driver for ADOBE PHOTOSHOP Software for use with KODAK Professional DCS 200 Digital Cameras."

3. If the diskette is not locked, lock it by sliding the tab on the back to reveal a small hole. This will prevent the contents of the disk from being changed inadvertently, and may aid in preventing the spread of computer viruses to this diskette.

BACK OF DISKETTE

Slide tab up to reveal the hole
and lock the disk.
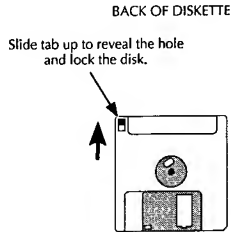
4. Place this diskette into the internal drive of your computer. You should see this window; if you do not, double-click on the KODAK DCS 200 Driver icon to display the window.
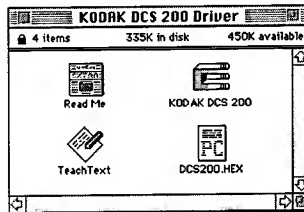
5. Double-click on the READ ME file icon on the diskette and read its contents — the latest information on the camera and software driver; then choose QUIT from the FILE menu to return to the Finder.

6. Complete part A for supported Photoshop versions before 2.5, and part B for versions 2.5 and later.

   A. Drag the KODAK DCS 200 icon and the DCS200.HEX icon into the folder on your hard disk containing the Photoshop PS PREFS file; wait while the files are copied.

      NOTE: If you do not place the KODAK DCS 200 and DCS200.HEX files in the same folder as PS Prefs, you will not be able to acquire images.

   B. Follow directions in the Photoshop manual regarding placement of plug-in modules. For example, with Photoshop version 2.5, drag the KODAK DCS 200 and DCS200.HEX icons into the PLUG-INS folder created when you installed this version of Photoshop (or into another folder you have designated with PREFERENCES to hold plug-in modules). Be certain that the two files are not placed within another folder inside the PLUG-INS folder. Wait while the files are copied.

7. Eject the KODAK DCS 200 Driver disk by dragging its icon to the TRASH icon.

8. Store the KODAK DCS 200 Driver disk for possible future use.

Accessing the Kodak Driver for Adobe Photoshop Software

Repeat the steps below each time you want to access the Kodak driver for Adobe Photoshop software.

NOTES: If you will be accessing images from an external hard disk that has been used with the DCS 200 Camera, and that is already connected to the Macintosh computer, begin at step 6 below.

If you encounter difficulties while following these steps, refer to "Messages — Kodak Driver for Adobe Photoshop Software" on page 7-25, or "Troubleshooting — Kodak Driver for Adobe Photoshop Software" on page 7-39.

1. If the DCS 200 Camera and your Macintosh computer are not connected, turn both off and connect them now by following the directions in "Making the SCSI Connection" on page 4-9.

2. Connect the AC battery charger/adapter to the camera as described in "Charging Batteries and Using the AC Battery Charger/Adapter" on page 3-3. (Although this step is optional, we recommend it whenever the camera is connected to a computer.)

3. If your Macintosh computer is on, turn it off.

4. Turn on the DCS 200 Camera by sliding the power switch to ON.

5. Wake-up the system by lightly pressing the shutter release button.

6. Turn on the Macintosh computer.

7. Wait until you are in the Finder.

8. Run Adobe Photoshop by double-clicking on its icon.

9. On the Macintosh computer, pull down the Adobe Photoshop FILE menu and choose KODAK DCS 200 from the ACQUIRE submenu. (The ACQUIRE submenu may show other options.)

NOTE: OPEN from the FILE menu will not acquire images from the DCS 200 Camera or from an external hard disk.

10. Wait as this dialog box appears. If a single larger image appears, you can click the Preview button to replace that preview image with the smaller thumbnail images illustrated below.

(The first time you choose this driver, a file named DCS 200 Prefer-ences is created in your System Folder. The settings you choose while in the driver are automatically maintained in that file from session to session.)
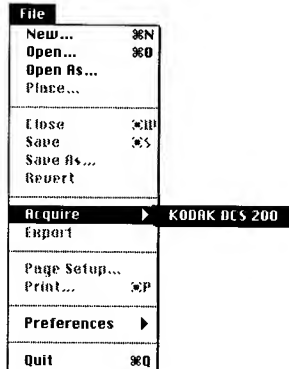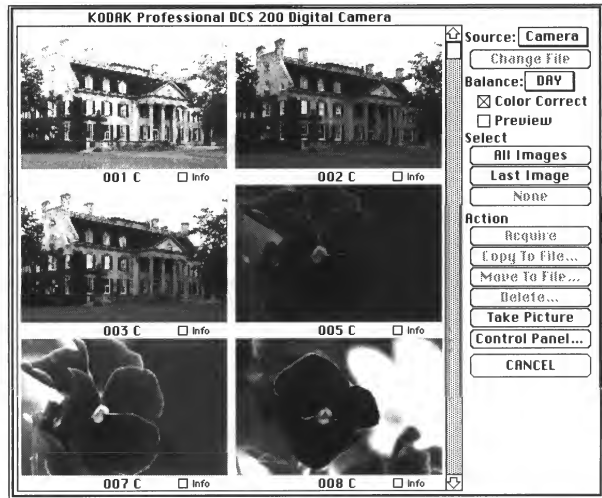
NOTES: If you are accessing images from an external hard disk that has been used with the DCS 200 Camera, skip this note and the next section and continue at the section "Viewing Images with the Adobe Photoshop Driver" on page 4-41.

If you are using a camera without an internal hard disk, you will see only a single image if one was in the camera, or no image if there is no image in the camera. As each new picture is taken, it replaces the single image in this window.

Instead of the dialog box above you may see the box below. If you do, refer to the explanation of this message on page 7-35.

```
The Camera was not found. Try the following.
• Wake up Camera
• Turn on Camera power
• Check all cables
• Check for SCSI ID conflict
• Check for dead batteries
• Switch to an archive file

        [ Cancel ]  [ Switch to File ]  [ Try Again ]
```
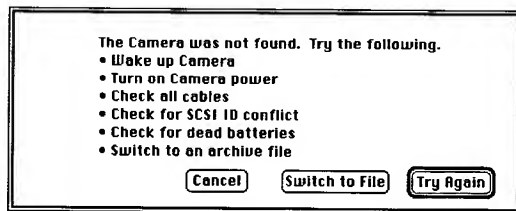
Updating Camera Firmware in the DCS 200 Camera

NOTE: Skip this section if you are accessing images from an external hard disk.

The DCS 200 Camera incorporates non-volatile memory that contains controls — called firmware — for most features of the camera. You can update that firmware yourself, which means you can keep the camera up-to-date as changes are made to the firmware, and you can perform some troubleshooting, all without sending the camera to a service center. By following the steps below the first time you use the Photoshop driver, you

will ensure that the camera contains the most current version of the firmware. You do not need to repeat these steps each time you use the driver.

1. Click the CONTROL PANEL button. You will see the dialog box below.

```
                     DCS 200 Control Panel
        ┌───────────────────────────┐  ┌──────────────┐
        │ Update Camera Firmware    │  │ Erase Disk   │
        └───────────────────────────┘  └──────────────┘
         Firmware Version  062999     ┌──────────────┐
                                      │ Format Disk  │
         Driver Version    3.0        └──────────────┘
                                      ┌──────────────┐
        ┌──────────────┐              │ Recover Disk │
        │ Do Self Test │              └──────────────┘
        └──────────────┘
        ┌──────────────┐              ☒ Disk Save ON
        │ Set Clock    │              ☐ Color Thumbnails
        └──────────────┘              ☐ Default to Thumbnails
         Camera Date  99/07/28        ☐ CMYK Separation Gamma
         Camera Time  12:39:41

         Color Filter Wheel Accessory Capture Mode
             ◉ Color Filter Wheel Accessory Not Used
             ○ Monochrome Capture
             ○ Color Capture
         ☒ Auto Select Color Alignment Rectangle
                                      ┌────────┐  ┌────────┐
                                      │ CANCEL │  │   OK   │
                                      └────────┘  └────────┘
```

2. Click the UPDATE CAMERA FIRMWARE button.

   NOTE: The UPDATE CAMERA FIRMWARE button may be dimmed when some cameras are connected to some Macintosh PowerBook computers. You will not be able to update that camera from that Macintosh computer; instead, update firmware by connecting that camera to another Macintosh computer model. If further assistance is needed, contact Kodak.

3. Wait approximately 20 seconds as firmware is copied to the camera.

4. Click OK as needed to return to the main driver dialog box.

Viewing Images with the Adobe Photoshop Driver

You are now viewing the driver dialog box.
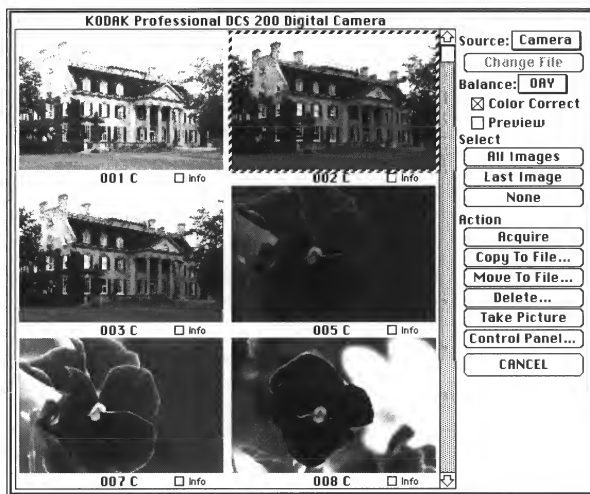
The image window in the driver dialog box displays thumbnails of images from the DCS 200 Camera hard disk (or from an external hard disk that

has been used with the DCS 200 Camera). A thumbnail is a subsample of data from the full image. The thumbnails appear in the image window in the same logical order that images appear on the DCS 200 Camera hard disk (or external hard disk that has been used with the DCS 200 Camera). The three-digit image numbers that appear beneath each image correspond to the image numbers used on the DCS 200 Camera. A "C" after the image number — if it appears —indicates a color image. Depending on the size of your monitor, you will see two or more thumbnails on each row, and two or more rows of thumbnails.

You can scroll through the images by moving the vertical scroll box or scroll arrows on the window, or by pressing the Page Up, Page Down, Home, or End keys on the Macintosh computer keyboard.

1. Scroll, if needed, until the image you want to acquire appears in the image window.

2. (Optional) Click once on the small square "INFO" box beneath the lower right corner of an image; the information box on the next page appears on the screen.

The data displayed includes, from top to bottom: the image number, time (displayed in 24-hour format) and date the image was made, the camera aperture, shutter speed, ISO setting, firmware version number (a date), and camera serial number. The camera aperture and shutter speed appear in this window as they appear in the camera LCD panel and viewfinder. Additionally, a text box allows you to enter short descriptive material, up to 254 characters, regarding the image. (Refer to "Commands" on page 7-4 for additional information.)

NOTES: If your computer monitor provides a software switch that allows you to center dialog boxes (for example SuperMac or E-Machines monitors), you

may wish to turn this feature off so that an information box does not cover images on the screen.

The time and date are maintained by a permanent battery in the DCS 200 Camera. If the time and date are incorrect, you can update them with the SET CLOCK choice on the CONTROL PANEL of the ACQUIRE dialog box as described in "Control Panel" on page 7-15.

```
┌─────────────────────────┐
│ ┌─────────────────────┐ │
│ │ KODAK  DCS-200      │ │
│ ├─────────────────────┤ │
│ │ Image Num    001    │ │
│ │ Time    09:31:52    │ │
│ │ Date    06/13/99    │ │
│ │ Aperture    f2.8    │ │
│ │ Shutter     60      │ │
│ │ ISO         200     │ │
│ │ 060499              │ │
│ │ K380-9999           │ │
│ ├─────────────────────┤ │
│ │ │                   │ │
│ │                     │ │
│ │                     │ │
│ │                     │ │
│ │                     │ │
│ │            ┌──────┐ │ │
│ │            │ Done │ │ │
│ │            └──────┘ │ │
│ └─────────────────────┘ │
└─────────────────────────┘
```
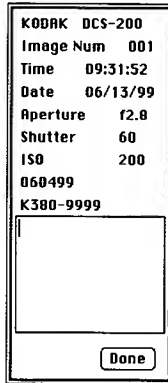
3. If you have opened the information box, click on the DONE button to close the information box.

4. Click once on the image you want. A narrow border appears on the screen, surrounding the image in the window, as illustrated by image number 002 in the figure on page 4-41.

5. (Optional) Click on PREVIEW. You see a single, enlarged version of the image, as below (we scrolled to image 021 and then clicked PREVIEW).

The image appears in color on your color monitor if it is a color image. Data below the image indicate the image number, a "C" if it is a color image, the current X and Y pixel location of the crosshair cursor on the preview image, and the red, green, and blue values at the current cursor location.

KODAK Professional DCS 200 Digital Camera

Source: Camera
Change File
Balance: DAY
☒ Color Correct
☒ Preview
Select
All Images
Last Image
None
Action
Acquire
Copy To File...
Move To File...
Delete...
Take Picture
Control Panel...
CANCEL

021 C ☐ Info   X 1508   Y 0764   R 068   G 068   B 068
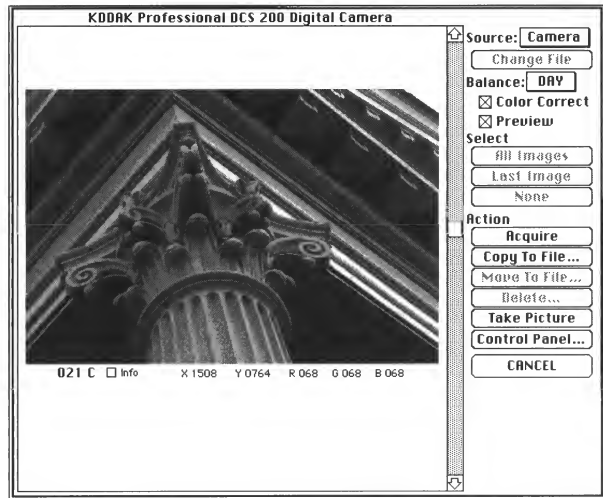
Selecting the Color Balance for an Image

NOTE: This section applies only to color cameras or color images on external hard disks that have been created with the camera. If you are working with a monochrome camera, continue on page 4-47 at "Acquiring Images with the Adobe Photoshop Driver."

In the following steps you will select an option to correspond to the original lighting conditions under which you took the picture. The option you select will be used for color correction by the driver when the image is acquired into Photoshop. The values associated with the option chosen from this BALANCE popup menu are substituted during the current acquire action and are used for color balancing subsequent images you acquire until you make another choice from the BALANCE popup menu. The actions described in this section do not affect the images stored in the camera (or on an attached external hard disk that has been used with the DCS 200 Camera); instead, these actions only affect the acquired image.

1. If you have not selected an image, and if you are not viewing that image in preview mode, select an image now by clicking on it, and then click the PREVIEW button.

    You can also perform the steps below while in thumbnail mode. However, using preview presents a larger image, providing a better view of the changes you may make (in the next step) to the color balance of an image.

2. Read through all parts of this step and then make the appropriate choice from the BALANCE popup menu.

```
Balance:  DAY
          TUNG
          TungBG40
          FLUOR
          FLASH
          Click
          None
```
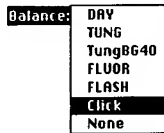
▶ The DAY, TUNG, TungBG40, FLUOR, or FLASH choices corre-
spond to daylight, tungsten, tungsten using a Schott BG-40 1mm
filter (refer to "Optional Camera Equipment" on page 1-9 for
availability information), fluorescent, or flash lighting conditions.

▶ The CLICK choice, which is always the preferred option, allows
you to provide color balancing data by clicking on a white or light
gray area of a thumbnail or a preview. (If there is no white or light
gray area, choose another option, or refer to "Click" on page 7-9
for a technique using a white or gray card.) After choosing CLICK,
the mouse pointer becomes a crosshair. Click on a white or light
gray area of the image that is not overexposed. Choose a spot on
the image where each of the red (r), green (g), or blue (b) color
values displayed on the line below the image are as high as
possible, but lower than 255. White balance values are calculated
based on the point at which you clicked.

NOTE: When you click, if you see a message that one of the colors is
saturated, select another point for balancing.

▶ The NONE choice can be used for images made under unusual
lighting conditions when the other choices do not provide the
desired results.

Now, select the choice you want from the popup BALANCE menu.

Acquiring Images with the Adobe Photoshop Driver

You are now ready to acquire an image from the driver into Photoshop.

1. Click on the A$_{CQUIRE}$ button; this progress box appears. You can cancel acquiring by pressing ⌘. (command-period).

```
Acquire: KODAK DCS 200
```
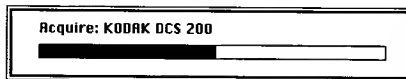
NOTES: You can also double-click on the thumbnail image (not the preview image) as an alternate to the two-step process of selecting one image and then clicking the Acquire button. Images can be acquired while in preview or thumbnail mode.

Do not take a new picture while an image is being acquired.

The software driver provided by Kodak for use with Adobe Photoshop software incorporates color-correcting algorithms. They operate while acquiring an image by using data stored on the DCS 200 Camera with the image.

2. Wait as the KODAK DCS 200 dialog box closes and the image appears in a Photoshop window.

3. (Optional) Edit the acquired image using Photoshop features. If you know that you will be using only a cropped portion of the image, you may want to complete that cropping now while in Photoshop. This will result in a smaller file when saved to disk.

4. (Optional) Save the image to the computer hard disk. (You cannot save the image to the DCS 200 Camera hard disk.)

IMPORTANT: If you click in the close box of the window of an acquired image, or choose C$_{LOSE}$ from the F$_{ILE}$ menu, the window will close without asking you if you want to save it. Therefore, be sure you save any acquired images you do not want to lose before closing the image windows.

5. (Optional) Repeat the steps of the last several sections and acquire and save additional images.

NOTE: If you are in Photoshop, but not within the driver, you can bypass several steps and acquire the last image directly from the camera hard disk, without the need to open the acquire dialog box. Press and hold the command key (⌘). Then choose KODAK DCS 200 from the Acquire submenu of the Adobe Photoshop File menu. Continue to depress the key. The acquire progress box will appear. Release the command key. Wait as the image is acquired and appears in a Photoshop window.

Creating Monochrome Images with a Color Camera

You can use a color camera to create monochrome images. To do so, begin by exposing as you would for a color capture. There are then two methods you can use: convert to gray scale, and green channel.

Convert to gray scale. This is the preferred method, for it offers the best tonal rendition of the image, and should be used with color images that do not have high gain or noise levels. (High noise levels in images can be caused by extended exposure times, and by using the maximum ISO setting.) To use this method, click Color Correct "on" in the driver, and acquire the image normally. Then choose Gray Scale from the Photoshop Mode menu to discard the color information. You are left with the mono- chrome image.

Green channel. Use this method for color images that contain high gain or noise levels. (High noise levels in images can be caused by extended exposure times, and by using the maximum ISO setting.) To use this method, click Color Correct "off" in the driver, and then acquire the image. Then choose Split Channels from the Mode menu and work only with the data from the green plane. This produces a sharper image than reducing the other color levels to zero, since half of the pixels in the imager are green. As a result, the green plane has the most information when images are acquired in Photoshop.

Quitting

Complete these steps if you have completed your work with the Macintosh computer and DCS 200 Camera.

1. (Optional) Choose KODAK DCS 200 again from the ACQUIRE submenu to return to the image window; delete unwanted images. This action will make room on the DCS 200 camera hard disk, or external hard disk, for additional images.

2. Save images as desired.

3. Choose QUIT from the FILE menu to quit Photoshop.

4. Turn off the DCS 200 Camera by sliding the power switch to off.

   NOTE: Ignore this step if you are working with an external hard disk that has been used with the DCS 200 Camera.

5. Choose SHUT DOWN from the Macintosh SPECIAL menu.

6. (Optional) Disconnect the DCS 200 Camera from the computer.

   NOTE: If you are working with an external hard disk that has been used with the DCS 200 Camera, ignore this step; instead, you can now remove that external hard disk, and reuse it with the DCS 200 Camera.

Additional Features of the Kodak Driver for Adobe Photoshop Software

The driver supplied by Kodak for use with Adobe Photoshop software provides a variety of additional features that allow you to work with images on the DCS 200 Camera hard disk, on an external hard disk, and on the Macintosh hard disk. The driver allows you to return from a photographic shoot, rapidly view some or all of the images, and transfer

selected images to the Macintosh hard disk for archival purposes or for later retrieval into Photoshop. You can then delete some or all of the images on the camera hard disk or external hard disk in preparation for making additional images.

(Refer to "Reference — Kodak Driver for Adobe Photoshop Software" — Chapter 7 — for a detailed description of these features.)

Taking Pictures While Connected to the Computer

You can take pictures with the camera while it is connected to the computer (for example in a studio setting). The following considerations apply to this usage.

▶ The camera functions independently, so it is not necessary for the computer to be running the software driver while taking pictures. The camera will continue to function while connected to the computer even if other software is active or if the computer is off.

▶ The AC battery charger/adapter can be used with the camera. We recommend this configuration.

▶ If you use the camera while the software driver is running on the computer, images will appear one-after-another in the image window as you take pictures.

▶ If no hard disk is present, or if you have turned off the Disk Save ON option on the Control Panel, each new image replaces the previous one. If you have an image you want to save, be certain that you acquire it or save it to an archive file (refer to information throughout Chapter 7, "Reference — Kodak Driver for Adobe Photoshop Software") before taking another picture.

▶ Do not take new pictures while an image is being acquired.

▶ Do not connect the camera to your computer while an optional external hard disk is connected to the camera. Instead remove the hard disk from the camera, and connect either the camera or the hard disk to the computer.

▶ The DELETE button on the camera back is disabled while the camera is connected to a computer. Instead use the Delete button on the image window of the software driver to delete selected images.

▶ The Take Picture button on the software driver can be clicked to issue a command that directs the camera to take a picture.